DRAFT ENVIRONMENTAL IMPACT REPORT



San Diego Gas & Electric Company's Otay Mesa Power Purchase Agreement Transmission Project

CPCN Application (A.04-03-008) SCH No. 2004071138



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PREPARED FOR: **California Public Utilities Commission**



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Contents

	Exec	utive Summary	ES-1
1.	Intro	duction/Background	ES-1
	1.1	Description of the Proposed Project	
	1.2	Environmental Setting of the Proposed Project	
	1.3	Summary of Public Involvement Activities	
	1.4	Areas of Controversy/Public Scoping Issues	
2.	Alter	natives	ES-9
	2.1	Alternatives Fully Evaluated in the EIR	ES-14
		2.1.1 SDG&E Design Options	
		2.1.2 Transmission System Alternative	
	2.2	Alternatives Eliminated from Full EIR Evaluation	
3.	Envir	onmental Impacts and Mitigation Measures	ES-35
	3.1	Air Quality	
	3.2	Biological Resources	ES-38
	3.3	Cultural Resources	ES-41
	3.4	Geology, Soils, and Paleontology	ES-43
	3.5	Hydrology and Water Quality	ES-44
	3.6	Land Use, Agriculture and Recreation	
	3.7	Noise and Vibration	ES-48
	3.8	Public Health and Safety	ES-49
	3.9	Public Services & Utilities	
	3.10	Population and Housing	ES-53
	3.11	Transportation and Traffic	
	3.12	Visual Resources	ES-56
4.	Sumr	nary Comparison of the Proposed Project and Alternatives	ES-58
	4.1	Methodology	ES-58
	4.2	Evaluation of Project Alternatives	ES-59
	4.3	Environmentally Superior Alternative	ES-64
		4.3.1 SDG&E Design Option Alternatives	ES-64
		4.3.2 Transmission System Alternative	ES-66
	4.4	The Environmentally Superior Alternative vs. The No Project Alternative	ES-68
Α.	Intro	duction/Overview	A-1
	A.1	Overview of Proposed Project	A-2
	A.2	Project Purpose and Need	A-4
		A.2.1 Regulatory Background and Project History	A-4
		A.2.2 Statement of Objectives	A-6
	A.3	Agency Use of This Document	A-8
		A.3.1 CPUC Process	A-8
		A.3.2 Other Agencies	A-9
	A.4	Reader's Guide to This EIR	A-11
		A.4.1 Incorporation by Reference	A-11
		A.4.2 EIR Organization	A-11
	A.5	General References	A-13
В.	Desc	ription of Proposed Project	B-1
	B.1	Introduction	
	B.2	Project Description	
		B.2.1 Project Location	
		B.2.2 Project Components and Route Descriptions	B-4

	DA	B.2.3 Permanent Land Requirements	
	B.3	Project Construction	
		B.3.1 Construction Schedule	
		B.3.2 Project Construction as Proposed by SDG&E	
		B.3.3 Underground Transmission Construction	
		B.3.4 Transition Station Construction	
		B.3.5 Transition Cable Pole Construction	
		B.3.6 Substation Modification Construction	
		B.3.7 Construction Equipment and Personnel	
	B.4	B.3.8 Potential Service Interruptions	
	В.4 В.5	Operation and Maintenance SDG&E Project Protocols	
	В.5 В.6	General References	
C.	Altown	ativas	C 1
U.	C.1	atives	
	C.1 C.2	Alternatives Development and Screening Process	
	C.2	Alternatives Screening Methodology C.2.1 Consistency with Project Objectives	
	C 2	0	
	C.3	Summary of Screening Results	
		C.3.1 Alternatives Analyzed in the EIR C.3.2 Alternatives Eliminated from EIR Consideration	
	C 4	C.3.2 Alternatives Eliminated from EIR Consideration Alternatives Evaluated in this EIR	
	C.4		
		C.4.2 SDG&E Design OptionsC.4.3 Transmission System Alternative 7 PV1 Variation – Miguel to	C-10
		•	C 22
	C.5	South Bay Power Plant Area Alternatives Eliminated from Full EIR Evaluation	
	C.5	C.5.1 SDG&E System Alternative 1	
		C.5.2 SDG&E System Alternative 1	
		C.5.2 SDG&E System Alternative 2 C.5.3 SDG&E System Alternative 3	
		C.5.4 SDG&E System Alternative 4	
		C.5.4 SDG&E System Alternative 4 C.5.5 SDG&E System Alternative 6	
		C.5.6 Partial Underground Alternative – Miguel to South Bay	
		C.5.7 Transmission System 7 with Partial Underground – Miguel to South Bay	
		C.5.8 Structure Design Alternative – Miguel to South Bay	
		C.5.9 Use of the Caltrans Bike Path – Sweetwater Marsh Avoidance Route	
		C.5.10 Use of the Railroad Right-of-Way – Sweetwater Marsh Avoidance RouteC.5.11 East of I-5 Routing – Sweetwater Marsh Avoidance Route	
		C.5.12 SDG&E's Route Segment Variation A – Sicard Street to Mission	
		C.5.12 SDG&E's Route Segment Variation A – Steard Street to Mission C.5.13 SDG&E's Route Segment Variation B – Sicard Street to Mission	
		C.5.13 SDG&E's Route Segment variation B – Steard Street to Mission C.5.14 Kettner Boulevard Underground Route Alternative	
		C.5.14 Return Boulevald Underground Route Anternative C.5.15 SDG&E's New Alternative Routes – Miguel – Old Town, Miguel – Mission,	C-42
		Miguel – Sycamore Canyon and Miguel – Sicard Street	C-42
		C.5.16 Miguel – Main – Mission A Alternative	
		C.5.17 Miguel – Main – Mission B Alternative	
		C.5.18 Miguel – Mission D Alternative	
		C.5.19 Non-Wires – South Bay Repower Alternative Project	
		C.5.20 Non-Wires – Energy Conservation and Demand Side Management	
		C.5.20 Non-Wires – Energy Conservation and Demand Side Management C.5.21 Non-Wires – Renewable Energy Resources	
	C.6	No Project Alternative	
D.1	Introd	uction to Environmental Analysis	D 1-1
	D.1.1	Introduction/Background	
	D.1.2	Environmental Assessment Methodology	
		67	

D.2	Air Qı	ıality	D.2-1
	D.2.1	Environmental Setting for the Proposed Project	D.2-1
	D.2.2	Applicable Regulations, Plans, and Standards	D.2-5
	D.2.3	Environmental Impacts and Mitigation Measures	D.2-9
	D.2.4	Project Alternatives	D.2-19
	D.2.5	Mitigation Monitoring, Compliance, and Reporting Table	D.2-22
	D.2.6	References	D-2-25
D.3		gical Resources	
	D.3.1	Environmental Setting for the Proposed Project	
	D.3.2	Applicable Regulations, Plans, and Standards	
	D.3.3	Environmental Impacts and Mitigation Measures	
	D.3.4	Project Alternatives	D.3-105
	D.3.5	Mitigation Monitoring, Compliance, and Reporting Table	
	D.3.6	References	D.3-126
D.4	Cultu	al Resources	
	D.4.1	Environmental Setting for the Proposed Project	
	D.4.2	Applicable Regulations, Plans, and Standards	
	D.4.3	Environmental Impacts and Mitigation Measures	
	D.4.4	Project Alternatives	
	D.4.5	Mitigation Monitoring, Compliance, and Reporting Table	D.4-24
	D.4.6	References	D.4-29
D.5	Geolo	gy, Soils, and Paleontology	D.5-1
	D.5.1	Environmental Setting for the Proposed Project	
	D.5.2	Applicable Regulations, Plans, and Standards	
	D.5.3	Environmental Impacts and Mitigation Measures	D.5-12
	D.5.4	Project Alternatives	
	D.5.5	Mitigation Monitoring, Compliance, and Reporting Table	D.5-25
	D.5.6	References	D.5-32
D.6	•	logy and Water Quality	
	D.6.1	Environmental Setting for the Proposed Project	
	D.6.2	Applicable Regulations, Plans, and Standards	
	D.6.3	Environmental Impacts and Mitigation Measures	
	D.6.4	Project Alternatives	
	D.6.5	Mitigation Monitoring, Compliance, and Reporting Table	D.6-21
	D.6.6	References	D.6-32
D.7	Land	Use, Agriculture and Recreational Resources	
	D.7.1	Environmental Setting for the Proposed Project	
	D.7.2	Applicable Regulations, Plans, and Standards	
	D.7.3	Environmental Impacts and Mitigation Measures	
	D.7.4	Project Alternatives	
	D.7.5	Mitigation Monitoring, Compliance, and Reporting Table	
	D.7.6	References	D.7-94
D.8		and Vibration	
	D.8.1	Environmental Setting for the Proposed Project	
	D.8.2	Applicable Regulations, Plans, and Standards	
	D.8.3	Environmental Impacts and Mitigation Measures for the Proposed Project	
	D.8.4	Project Alternatives	
	D.8.5	Mitigation Monitoring, Compliance and Reporting Table	
	D.8.6	References	D.8-23

D.9	Public	Health and Safety	D.9-1
	D.9.1	Environmental Setting for the Proposed Project	
	D.9.2	Applicable Regulations, Plans, and Standards	D.9-3
	D.9.3	Environmental Impacts and Mitigation Measures	
	D.9.4	Project Alternatives - Contamination and Hazardous Materials	
	D.9.5	Electric and Magnetic Fields and Other Field-Related Concerns	D.9-14
	D.9.6	Environmental Impacts and Mitigation Measures – Non-EMF Electric	
		Power Field Issues	
	D.9.7	Mitigation Monitoring, Compliance, and Reporting Table	
	D.9.8	References	D.9-48
D.10	Public	Services and Utilities	D.10-1
		Environmental Setting for the Proposed Project	
	D.10.2	Applicable Regulations, Plans, and Standards	
	D.10.3		
	D.10.4		
	D.10.5	Mitigation Monitoring, Compliance, and Reporting Table	D.10-21
	D.10.6	References	D.10-25
D.11	Popula	ation and Housing	D 11-1
0.11		Environmental Setting for the Proposed Project	
	D.11.2		
	D.11.2		
	D.11.4		
	D.11.5		
		References	
D.12	Tropor	portation and Traffic	D 42 4
D.12		Environmental Setting for the Proposed Project	
		Applicable Regulations, Plans, and Standards	
		Environmental Impacts and Mitigation Measures	
	D.12.3 D.12.4		
	D.12.4 D.12.5	Mitigation Monitoring, Compliance, and Reporting Table	
		References	
D.13		Resources	
		Environmental Setting for the Proposed Project	
	D.13.2		
		Environmental Impacts and Mitigation Measures	
		Project Alternatives	
	D.13.5 D.13.6	Mitigation Monitoring, Compliance, and Reporting Table References	
Ε.		arison of Alternatives	
	E.1	Comparison Methodology	
	E.2	Evaluation of Project Alternatives	
	E.3	Environmentally Superior Alternative	
		E.3.1 SDG&E Design Option Alternatives	
		E.3.2 Transmission System Alternative	
	-	E.3.3 Summary of the Environmentally Superior Alternative	
	E.4	No Project Alternative vs. the Environmentally Superior Alternative	
		E.4.1 Summary of the No Project Alternative	
		E.4.2 Summary of the Environmentally Superior Alternative and its Impacts	E-14
F.	Other	CEQA Considerations	F-1
	F.1	Growth-Inducing Effects	
		F.1.1 Growth Caused by Direct and Indirect Employment	
		F.1.2 Growth Related to Provision of Additional Electric Power	F-2

	F.2	Significant Irreversible Changes	
	F.3	Cumulative Scenario	
	F.4	Cumulative Impact Analysis	
		F.4.1 Air Quality	
		F.4.2 Biological Resources	
		F.4.3 Cultural Resources	
		F.4.4 Geology, Soils, and Paleontology	
		F.4.5 Hydrology and Water Quality	
		F.4.6 Land Use and Recreation	
		F.4.7 Noise and Vibration	
		F.4.8 Public Health and Safety	
		F.4.9 Public Services and Utilities	
		F.4.10 Population and Housing	
		F.4.11 Transportation and Traffic	
		F.4.12 Visual Resources	
	F.5	References	
G.		ation Monitoring and Reporting	G-1
	G.1	Authority for the Mitigation Monitoring, Compliance, and	
		Reporting Program	
	G.2	Organization of the Final Mitigation Monitoring Plan	
	G.3	Roles and Responsibilities	
	G.4	Enforcement Responsibility	
	G.5	Mitigation Compliance Responsibility	
	G.6	Dispute Resolution	
	G.7	General Monitoring Procedures	
		G.7.1 Environmental Monitor	
		G.7.2 Construction Personnel	
		G.7.3 General Reporting Procedures	
		G.7.4 Public Access to Records	
	G.8	Condition Effectiveness Review	
	G.9	Mitigation Monitoring Program Tables	G-7
н.	Public	c Participation	H-1
•••	H.1	EIR Scoping Process	
	11.1	H.1.1 Notice of Preparation	
		H.1.2 Public Scoping Meetings	
		H.1.3 Scoping Report	
		H.1.4 Public Notice of Amended Project Description	
	H.2	Public Notice and Participation	
	11.2	H.2.1 Public Notification	
		H.2.1 Public Notification	
		H.2.3 EIR Information and Repository Sites	
		1.2.5 Envinion and repository Sites	
I.	Repo	rt Preparation	I-1
	I.1	List of Abbreviations and Acronyms	
		-	

APPENDICES

- 1. Detailed Project Maps and Structure Heights
- 2. Alternative Screening Report
- 3. Biological Resources Technical Report
- 4. Cultural Native American Consultation
- 5. List of Potentially Contaminated Sites
- 6. SDG&E EMF Management Plan
- 7. Memorandum of Understanding between San Diego Gas & Electric Company and the City of Chula Vista

LIST OF TABLES

4-1 4-2	Proposed Project vs. Alternatives: Summary of Significant Unmitigable (Class I) Impacts. Proposed Project vs. Alternatives – Summary of Environmental Impact Conclusions	ES-60
5-1 5-2	Summary of Impacts and Mitigation for the Proposed Project Summary of Impacts and Mitigation for the Alternatives to the Proposed Project	
A-1	Permits Required for the OMPPA Transmission Project	A-10
B-1	Summary of Project Components	B-5
B-2	Project Construction as Proposed by SDG&E	B-36
B-3	Applicant's Proposed Measures (APMs) for Each Issue Area	B-47
B-4	Applicant Proposed Measures (APMs)	
C-1	SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis	C-10
D.2-1	Local Ambient Air Quality Monitoring Data	D.2-3
D.2-2	Notable Generation Sources in OMPPA Transmission Project Area	
D.2-3	National and California Ambient Air Quality Standards	
D.2-4	Summary of Health Effects of the Major Criteria Pollutants	D.2-6
D.2-5	Attainment Status of San Diego Air Basin	D.2-6
D.2-6	Air Quality Significance Thresholds	D.2-9
D.2-7	Applicant Proposed Measures	D.2-10
D.2-8	Typical Construction Equipment Emissions	D.2-12
D.2-9	Total Daily Peak Construction Air Emissions	D.2-13
D.2-10	Mitigation Monitoring Program – Air Quality	D.2-23
D.3-1	Existing Vegetation Communities within the Project Area	D.3-7
D.3-2	Sensitive Plant Species Potentially Occurring or Observed in the OMPPA	D.3-25
D.3-3	Sensitive Animal Species Potentially Occurring or Observed in the OMPPA	
D.3-4	Applicant Proposed Measures for Biological Resources	D.3-64
D.3-5	Permanent Impacts to Sensitive Vegetation Communities	
D.3-6	Temporary Impacts to Sensitive Vegetation Communities	
D.3-7	Mitigation Monitoring Program – Biological Resources	D.3-110
D.4-1	Cultural Resources Identified in the OMPPA Transmission Project ROW	
D.4-2	Applicant Proposed Measures for Cultural Resources	
D.4-3	Mitigation Monitoring Program – Cultural Resources	D.4-25
D.5-1	Elevations Along the OMPPA Transmission Project	
D.5-2	General Descriptions and Characteristics of the Geologic Formations	
D.5-3	Active Faults in the Study Area	
D.5-4	The Modified Mercalli Scale of Earthquake Intensities	
D.5-5	Applicant Proposed Measures – Geology, Soils, and Paleontology	
D.5-6	Mitigation Monitoring Program – Geology, Soils, Paleontology	D.5-26
D.6-1	Watersheds and Waterbodies Spanned by the Project	
D.6-2	Applicant Proposed Measures – Hydrology and Water Quality	
D.6-3	Mitigation Monitoring Program – Hydrology and Water Quality	D.6-22
D.7-1	Recreational Facilities	
D.7-2	Public and Private Schools within 0.25 Mile of Project Area	
D.7-3	Applicable Jurisdictions and Planning Documents by Project Segment	
D.7-4	Applicant Proposed Measures for Land Use and Recreation	D.7-48
D.7-5	Consistency Analysis with Applicable Land Use Plan, Policy or Regulation for the	
D7(230 kV Transmission Line	
D.7-6	Recreational Facilities – Impacts	D.7-60

D.7-7	Consistency Analysis of Applicable Land Use Plans, Policies and Regulations for the	
	230 kV Underground Cable	D.7-69
D.7-8	Mitigation Monitoring Program – Land Use and Recreation	
D.8-1	Definitions	
D.8-2	Typical Sound Levels Measured in the Environment and Industry	
D.8-3	Ambient Noise Measurements	
D.8-4	Applicant Proposed Measure for Noise and Vibration	D.8-10
D.8-5	Typical Noise Levels of Construction Equipment	D.8-11
D.8-6	Mitigation Monitoring Program – Noise	
D.9-1	Applicant Proposed Measures – Public Health and Safety	D.9-7
D.9-2	Typical Electric Field Values for Appliances at 12 Inches	
D.9-3	Magnetic Field from Household Appliances	
D.9-4	EMF Regulated Limits (by State)	
D.9-5	Calculated Magnetic Fields: Overhead Segment, Peak Load	
D.9-6	Calculated Magnetic Fields: Underground Segment, Peak Load	
D.9-0 D.9-7	Mitigation Monitoring Program – Public Health and Safety	
0.77		
D.10-1	Utility and Service Providers by Jurisdiction	
D.10-2	Potential Shared Underground Utilities along the OMPPA Transmission Project Route	D.10-4
D.10-3	Public and Private Schools within 0.25 Mile of Project Area	D.10-6
D.10-4	Applicant Proposed Measures	D.10-8
D.10-5	Mitigation Monitoring Program – Public Services and Utilities	
D.11-1	Population Characteristics	D.11-2
D.11-2	Demographic Profile for the Project Study Area	
D.11-3	Housing Characteristics.	
D.11-4	Employment and Labor Force Characteristics	
D.12-1	Overhead Crossings of Freeways, Major Roadways and Arterials within OMPPA	
D.12-1	Transmission Project Corridor	D 12 2
D 12 2	Overhead Crossings of Collector, Local and Residential Streets within OMPPA	D.12-2
D.12-2	Transmission Project Corridor	D 12 2
D 12 2		
D.12-3	Roadways within Underground Portion of OMPPA Transmission Project Corridor	
D.12-4	Overhead Crossings of Bus Routes within the OMPPA Transmission Project Corridor	
D.12-5	Bus Routes within Underground Segment of OMPPA Transmission Project Corridor	
D.12-6	Trolley Routes within OMPPA Transmission Project Area	
D.12-7	Bicycle Routes within OMPPA Transmission Project Area	
D.12-8	Applicant Proposed Measure for Transportation and Traffic	D.12-14
D.12-9	Summary Of Impacts from Proposed 230 kV Cable/Duct Bank Location With Respect To	
	NEVP Proposed Tree Locations within the Pacific Highway Median	
D.12-10	Mitigation Monitoring Program- Transportation and Traffic	D.12-34
D.13-1	Guidelines for Determining Visual Impact Significance	D.13-31
D.13-2	Applicant Proposed Measures for Visual Resources	
D.13-3	Mitigation Monitoring Program – Visual Resources	D.13-125
E-1	Proposed Project vs. Alternatives Summary of Significant Unmitigable	
	(Class I) Impacts	E-3
E-2	Proposed Project vs. Alternatives	
F-1	Cumulative Scenario – Approved and Pending Projects	Е б
F-1 F-2	Future Projects Identified in SDG&E's MOU with the City of Chula Vista – Related	г-э
17		E 17
	Environmental Issues	F-1/
I-1	EIR Preparers	I-1

LIST OF FIGURES

ES-1	Overview of Proposed Project	ES-2
ES-2	Overview of All Alternatives Considered in Screening Analysis – SDG&E PEA	
	System Alternatives	
ES-3	Overview of All Alternatives Considered in Screening Analysis Route and Design Variation	onsES-12
ES-4	Overview of All Alternatives Considered in Screening Analysis – Transmission System	
	Alternative 7 and Variations	ES-13
ES-5	Environmentally Superior Alternative	ES-65
B-1	Regional Map	
B-2	Vicinity Map	
B-3	Project Map 1, Sycamore Canyon – Fanita Junction	
B-3	Project Map 2a, Miguel – South Bay	
B-3	Project Map 2b, Miguel – South Bay	
B-3	Project Map 2c, Miguel – South Bay	
B-3	Project Map 3, South Bay – Sweetwater River	
B-3	Project Map 4, Sweetwater River – Sicard Street	
B-3	Project Map 5a, Sicard Street – Old Town	
B-3	Project Map 5b, Sicard Street – Old Town	B-27
B-4	Typical Tubular Steel Pole	
B-5	Cross-Section of Sycamore Canyon Substation to Fanita Junction	B-10
B-6	Cross-Section of Miguel Substation to South Bay Power Plant Area	B-15
B-7	Cross-Section South Bay Power Plant Area to Sweetwater River Area	B-18
B-8	230 kV Transition Cable Pole	B-19
B-9	Typical Duct Bank Configuration	B-21
B-10	Typical Lattice Bridge Structure Modification	B-24
B-11	Cross-Section of Sweetwater River Area to Sicard Street Transition Area	B-25
B-12	Typical Transition Station	B-29
B-13	Sycamore Canyon Substation Modification	B-31
B-14	Miguel Substation Modification	B-32
B-15	Old Town Substation Modification	B-33
B-16	Typical Construction Activity	B-38
B-17	Typical Conductor Stringing Activity	B-39
B-18	Typical Underground Construction Process	B-42
B-19	Installation of Underground Transmission Line	B-43
C-1	Overview of Alternatives Considered in Screening Analysis - SDG&E PEA System Altern	
C-2	Overview of Alternatives Considered in Screening Analysis Route and Design Variations	C-4
C-3	Overview of Alternatives Considered in Screening Analysis – Transmission System 7	
	and Variations	
C-4	Pacific Highway Bridge Attachment Design Alternative	
C-5	Sicard Street Cable Pole Design Alternative	
C-6	Harbor Drive Bridge Attachment Design Alternative	
C-7	South Bay Power Plant Area to Sweetwater River Overhead Design Alternative	
C-8a	Transmission System Alternative 7 PV1 – Miguel to South Bay – Map A	
C-8b	Transmission System Alternative 7 PV1 – Miguel to South Bay – Map B	
C-8c	Transmission System Alternative 7 PV1 – Miguel to South Bay – Map C	C-26
D.3-1	Special Management Area	
D.3-2	Biological Resources Map 1	
D.3-2	Biological Resources Map 2	
D.3-2	Biological Resources Map 2b	
D.3-2	Biological Resources Map 2c	
D.3-2	Biological Resources Map 3	
D.3-2	Biological Resources Map 4	
D.3-2	Biological Resources Map 5a	
D.3-2	Biological Resources Map 5b	D.3-15

D.5-1	Geologic Hazards Map	D.5-5
D.6-1	Hydrologic Map	D.6-2
D.7-1	Regional Jurisdictional Map	D.7-2
D.7-2	Land Use Map 1	
D.7-2	Land Use Map 2a	
D.7-2	Land Use Map 2b	
D.7-2	Land Use Map 2c	
D.7-2	Land Use Map 3	
D.7-2	Land Use Map 4	
D.7-2	Land Use Map 5a	
D.7-2	Land Use Map 5b	
D.7-3	Community Neighborhood Planning Areas	
D.9-1a	Proposed Overhead Segment Magnetic Field Levels – Segment 1d	D.9-31
D.9-1b	Proposed Overhead Segment Magnetic Field Levels - Segment 1e	D.9-32
D.9-1c	Proposed Overhead Segment Magnetic Field Levels - Segment 1f	D.9-33
D.9-1d	Proposed Overhead Segment Magnetic Field Levels - Segment 1M	D.9-34
D.9-1e	Proposed Overhead Segment Magnetic Field Levels - Segment 1N	D.9-35
D.12-1	General Duct Bank Heat Gradient Diagram	D.12-26
D.13-1	KOP Photo Location Map	D 13-8
D.13-2A	KOP 1 (Future) Residential – Mount Miguel Road, Existing View	
D.13-2B	KOP 1 (Future) Residential – Mount Miguel Road, Visual Simulation	
D.13-3A	KOP. 2 – Residential – Coltridge Lane, Existing View	
D.13-3B	KOP 2 – Residential – Coltridge Lane, Visual Simulation	
D.13-3C	KOP 2 – Residential – Coltridge Lane – Visual Simulation –	
2.13 30	Transmission System Alternative 7	D.13-43
D.13-4A	KOP 3 – Bonita Long Canyon Park, Existing View	
D.13-4B	KOP 3 – Bonita Long Canyon Park – Visual Simulation	
D.13-5A	KOP 4 – Residential – Pepperwood Court, Existing View	
D.13-5B	KOP 4 – Residential – Pepperwood Court, Visual Simulation	
D.13-6A	KOP 5 – Residential – Via Hacienda, Existing View	
D.13-6B	KOP 5 – Residential – Via Hacienda, Visual Simulation	
D.13-7A	KOP 6 – Otay Lakes Road, Existing View	D.13-52
D.13-7B	KOP 6 – Otay Lakes Road – Visual Simulation	D.13-53
D.13-8A	KOP 7 – Bonita Vista Middle School and Residential, Existing View	D.13-55
D.13-8B	KOP 7 – Bonita Vista Middle School and Residential – Visual Simulation	D.13-56
D.13-8C	KOP 7 – Bonita Vista Middle School & Residential – Visual Simulation – Transmission	
	System Alternative 7	
D.13-9A	KOP 8 – Discovery Park - Existing View	
D.13-9B	KOP 8 – Discovery Park – Visual Simulation	
D.13-9C	KOP 8 – Discovery Park – Visual Simulation – Transmission System Alternative 7	
D.13-10A	KOP 9 – Residential – Chestnut Court - Existing View	
D.13-10B	KOP 9 – Residential – Chestnut Court – Visual Simulation	
D.13-11A	KOP 10 – Sunridge Park - Existing View	
D.13-11B	KOP 10 – Sunridge Park – Visual Simulation	D.13-65
D.13-11C	KOP 10 – Sunridge Park – Visual Simulation – Transmission System Alternative 7	
D.13-12A	KOP 11 – Residential – Blackwood Road - Existing View	
D.13-12B	KOP 11 – Residential – Blackwood Road – Visual Simulation	
D.13-13A	KOP 12 – Telegraph Canyon Road - Existing View	
D.13-13B D.13-14A	KOP 12 – Telegraph Canyon Road – Visual Simulation	
D.13-14A D.13-14B	KOP 13 - Sunbow Park - Existing View KOP 13 – Sunbow Park – Visual Simulation	
D.13-14B D.13-15A	KOP 15 – Sundow Park – Visual Simulaton KOP 14 – Residential – Crescent Drive - Existing View	
D.13-15A D.13-15B	KOP 14 – Residential – Crescent Drive – Existing View	
2.1.2 IJD	1. 1. Residential Crescent Direct Fisual Simulation	

D.13-16A	KOP 15 – Greg Rogers Park - Existing View	D.13-78
D.13-16B	KOP 15 – Greg Rogers Park – Visual Simulation	
D.13-17A	KOP 16 – Residential – Raven Avenue - Existing View	
D.13-17B	KOP 16 – Residential – Raven Avenue – Visual Simulation	
D.13-18A	KOP 17 – Nacion Avenue - Existing View	
D.13-18B	KOP 17 – Nacion Avenue – Visual Simulation	
D.13-19A	KOP 18 – Residential – Spruce Street - Existing View	
D.13-19B	KOP 18 – Residential – Spruce Street – Visual Simulation	D.13-86
D.13-19C	KOP 18 – Residential – Spruce Street – Visual Simulation –	
	Transmission System Alternative 7	
D.13-20A	KOP 19 – Reinstra Ball Fields - Existing View	D.13-89
D.13-20B	KOP 19 – Reinstra Ball Fields – Visual Simulation	D.13-90
D.13-20C	KOP 19 - Reinstra Ball Fields - Visual Simulation - Transmission System Alternative 7	
D.13-21A	KOP 20 – SDG&E Park - Existing View	D.13-92
D.13-21B	KOP 20 – SDG&E Park – Visual Simulation	D.13-93
D.13-22A	KOP 21 – Residential – Jicama Way - Existing View	
D.13-22B	KOP 21 – Residential – Jicama Way – Visual Simulation	D.13-96
D.13-23A	KOP 22 - Residential - 5-10 Mobile Home Ranch - Existing View	D.13-97
D.13-23B	KOP 22 – Residential – 5-10 Mobile Home Ranch – Visual Simulation	D.13-98
D.13-23C	KOP 22 – Residential – 5-10 Mobile Home Ranch – Visual Simulation –	
	Transmission System Alternative 7	D.13-99
D.13-24A	KOP 23 – Chula Vista South Public Library - Existing View	D.13-101
D.13-24B	KOP 23 – Chula Vista South Public Library – Visual Simulation	D.13-102
D.13-25A	KOP 24 - Residential - Lynwood South Mobile Estates - Existing View	D.13-103
D.13-25B	KOP 24 – Residential – Lynwood South Mobile Estates – Visual Simulation	D.13-104
D.13-26A	KOP 25 - Residential - Trenton Street - Existing View	
D.13-26B	KOP 25 – Residential – Trenton Street – Visual Simulation	D.13-107
D.13-27A	KOP 26 – Interstate 5 South - Existing View	D.13-108
D.13-27B	KOP 26 – Interstate 5 South – Visual Simulation	
D.13-28A	KOP 28 – Harbor Drive - Existing View	
D.13-28B	KOP 28 – Harbor Drive – Visual Simulation	
D.13-29A	KOP 29 – Sicard Street - Existing View	
D.13-29B	KOP 29 – Sicard Street – Visual Simulation	
D.13-30A	KOP 27 – Marina View Park - Existing and Future View	
D.13-30B	KOP 27 – Marina View Park – Future View	
E-1	Environmentally Superior Alternative	E-13

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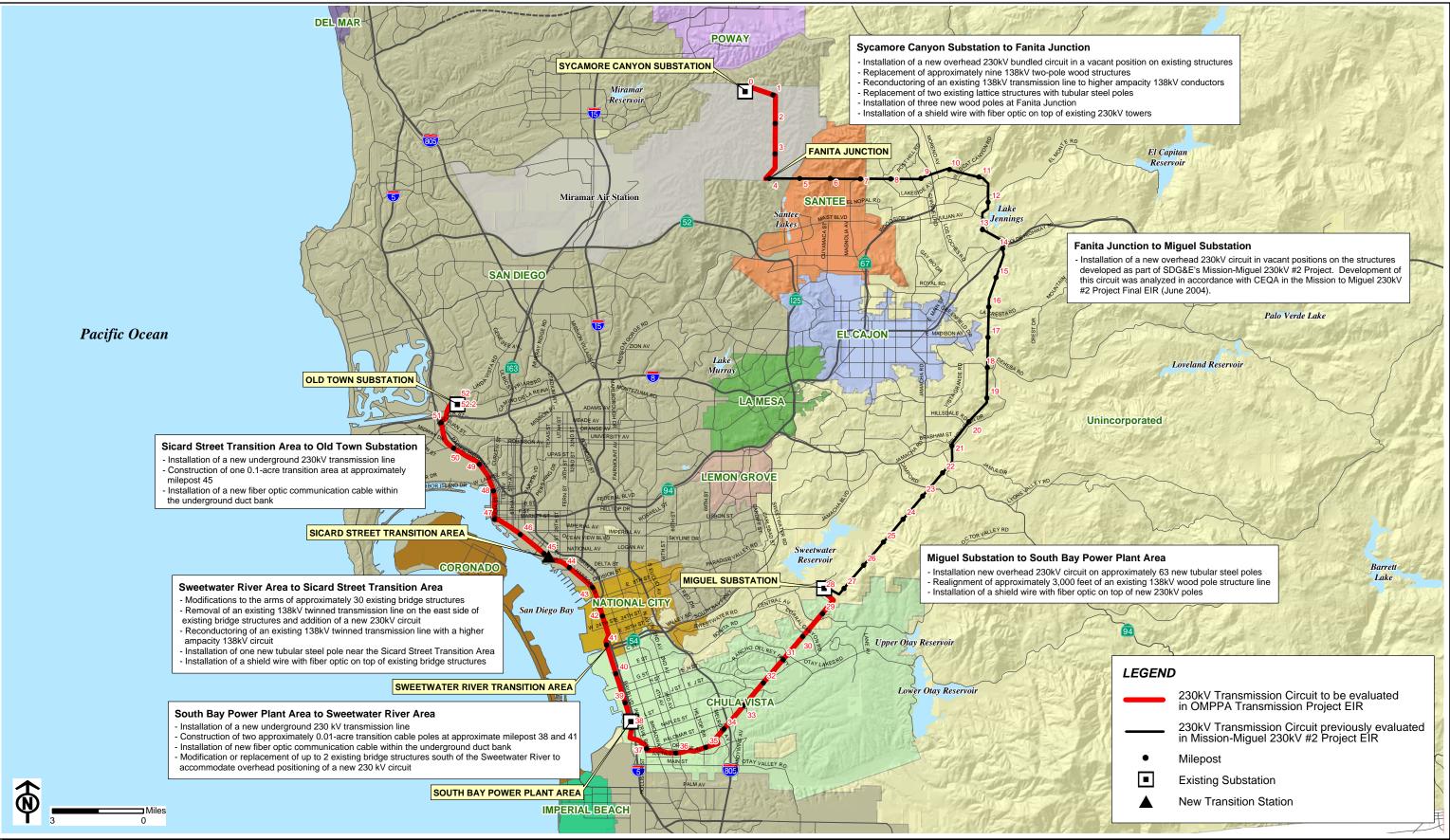
EXECUTIVE SUMMARY

1. Introduction/Background

San Diego Gas and Electric Company (SDG&E) filed an application (Application Number A.04-03-008) for a Certificate of Public Convenience and Necessity (CPCN) with the California Public Utilities Commission (CPUC) on March 8, 2004 for authority to construct the Proposed Otay Mesa Power Purchase Agreement (OMPPA) Transmission Project (Proposed Project). As a result of ongoing negotiations between the City of Chula Vista and SDG&E regarding several energy related facilities and the City of Chula Vista's efforts to redevelop the San Diego Bayfront, SDG&E amended Application A.04-03-008 on November 18, 2004 to revise the project description along the City of Chula Vista's Bayfront redevelopment area. The project proposed by SDG&E (the "Proposed Project") as amended November 2004 primarily consists of a new 230 kilovolt (kV) electric transmission line (circuit) that would connect the Otay Mesa Generation Project (OMGP), currently under construction near SDG&E's existing Miguel Substation, with SDG&E's existing Sycamore Canyon Substation, and a second 230 kV electric transmission line that would connect the OMGP to SDG&E's existing Old Town Substation, a new transition station, two new overhead to underground transition cable poles, and modifications to SDG&E's existing Sycamore Canyon, Miguel and Old Town substations. As illustrated in Figure ES-1, the new 230 kV electric transmission lines would be installed with overhead and underground segments. The overhead portion of the transmission line includes approximately 42 miles proposed to be located within existing SDG&E right-of-way (ROW) and would cross the cities of Santee, Chula Vista, National City, San Diego, unincorporated areas of eastern San Diego County, and military lands. The underground portion of the line includes approximately ten miles, proposed to be installed in a new underground duct bank, primarily within SDG&E ROW and City of San Diego roadways.

SDG&E's stated objectives for the OMPPA Transmission Project are as follows:

- (1) Provide Full Dispatchability of Resources from the proposed OMGP (615MW) that could be delivered into the San Diego local reliability area (LRA).
- (2) Provide Firm Transmission Delivery of the OMGP to Load Centers at the Sycamore Canyon and Old Town substations, along with surrounding substations.
- (3) Prevent the OMGP from Compounding Intra-Zonal Congestion at the Miguel Substation.
- (4) Meet G-1/N-1 Reliability Need Due to Future Load Growth.
- (5) Provide for Expansion Capability for Load Growth and Possible Generation Retirement.
- (6) Minimize Load Shedding and Avoid Potential Cascading Outage During Miguel Corridor Outage.
- (7) Provide Cost Savings to SDG&E Customers by Reduction Some of the CAL-ISO Reliability Must Run (RMR) Contract Requirements.



BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project EIR **Overview of Proposed Project**



The CPUC is the State lead agency responsible for compliance with the California Environmental Quality Act (CEQA). This Draft Environmental Impact Report (EIR) has been prepared by the CPUC in compliance with CEQA Guidelines. This EIR discloses the environmental impacts expected to result from the construction and operation of SDG&E's Proposed Project and mitigation measures, which, if adopted by the CPUC or other responsible agencies, could avoid or minimize significant environmental effects. In accordance with CEQA guidelines, this EIR also evaluates alternatives to the Proposed Project that could avoid or minimize the significant environmental effects. This EIR provides a comparison of the environmental effects of the Proposed Project and the alternatives, and identifies the Environmentally Superior Alternative.

The OMPPA Transmission Project EIR is an information document only; and does not make a recommendation regarding the approval or denial of the project. The purpose of the EIR is to inform the public on the environmental setting and impacts of the Proposed Project and alternatives. This EIR will be used by the CPUC in conducting the proceeding to determine whether to grant SDG&E's requested CPCN. This Executive Summary (ES) provides an overview of the Proposed Project and the alternatives considered, as well as the environmental findings and mitigation measures specified in this EIR.

1.1 Description of the Proposed Project

Figure ES-1 provides an overview of the Proposed Project. Project facilities can be divided into the following six different segments and related substation modifications:

- 1. Sycamore Canyon Substation to the Fanita Junction (*Location: U.S. Marine Corps Air Station Miramar*): Along this four-mile segment, the project consists of the installation of a new 230 kV electric transmission line on a vacant position on existing towers from the Sycamore Canyon Substation to Fanita Junction, along with the reconductor of an existing 138 kV line, replacement of nine two-pole wood structures to facilitate the 138 kV reconductor, replacement of two existing lattice towers with two tubular steel poles at Fanita Junction, installation of three new wood poles at Fanita Junction and installation of a fiber optic line on the existing 230 kV towers.
- 2. Fanita Junction to Miguel Substation (*Location: Cities of San Diego, Santee and unincorporated San Diego County*): Along this 24-mile segment, the project consists of the installation of a new second 230 kV electric transmission line between Fanita Junction and SDG&E's Miguel Substation in vacant positions on the 230 kV transmission structures approved as part of SDG&E's Miguel-Mission 230 kV #2 Project. The Miguel-Mission 230 kV #2 Project is a stand-alone project that was reviewed by the CPUC under a separate CPCN proceeding (A.O2-07-022) and EIR analysis. As part of

the EIR analysis conducted for the Miguel-Mission 230 kV #2 Project, the construction and operation of the second 230 kV circuit between Fanita Junction and the Miguel Substation, proposed as part of the OMPPA Transmission Project, was analyzed in accordance with the criteria, standards, and procedures of CEQA. Analysis of the second 230 kV line between Fanita Junction and the Miguel Substation was conducted in the EIR completed for the Miguel-Mission 230 kV #2 Project, because of the direct connection with the 230 kV transmission structures approved as part of the Miguel-Mission project and likelihood of being proposed in the future (Miguel-Mission 230 kV #2 Project Final EIR, June 2004). On July 8, 2004, the Commission certified the Miguel-Mission 230 kV #2 Project Final EIR including analysis of the second circuit which is available for review at the CPUC, Central Files, 505 Van Ness Avenue, San Francisco, California. Therefore, while CPUC approval of the proposed project would include construction and operation of the second line between Fanita Junction and the Miguel Substation, no further analysis of this segment will be evaluated in this EIR.

- 3. Miguel Substation to South Bay Power Plant (*Location: Cities of Chula Vista and unincorporated San Diego County*): Along this ten-mile segment, the project consists of the installation of a new ten-mile overhead 230 kV electric transmission line from the Miguel Substation to the Duke Energy South Bay Power Plant (South Bay Power Plant) switchyard area on approximately 63 new steel tubular poles, realignment of 3,000 feet of an existing 139 kV wood pole line leading into the Miguel Substation, and installation of a fiber optic line atop the existing 230 kV structures.
- 4. South Bay Power Plant to Sweetwater River (*Location: City of Chula Vista*): Along this three-mile segment, the project consists of the installation of a new underground 230 kV cable and fiber optic line primarily within existing SDG&E ROW from an overhead to underground transition cable pole located near the South Bay Power Plant to an underground to overhead transition cable pole located on the south side of the Sweetwater River. Modification or replacement of up to two existing bridge structures to accommodate the overhead positioning of the new 230 kV line is also proposed.
- 5. Sweetwater River Area to Sicard Street Transition Area (*Location: Cities of National City, and San Diego and Naval Station San Diego*): Along this four-mile segment, the project consists of modifications to approximately 30 existing bridge tower structures to accommodate a new overhead 230 kV electric transmission line from just south of the Sweetwater River to the Sicard Street Transition Area near the Main Street Substation, where the line would transition from overhead to underground. Upgrade of an existing 138 kV twinned line on one side of the existing bridge structures to a 230 kV line, reconductor of an existing 138 kV line on the existing bridge structures to

accommodate a reconfiguration of the existing 138 kV lines, and installation of fiber optic line on the existing bridge structures is also proposed.

6. Sicard Street Transition Area to Old Town Substation (*Location: City of San Diego*): Along this final seven-mile segment, the project consists of the installation of a new underground 230 kV cable in city streets from Sicard Street to SDG&E's Old Town Substation, construction of a new 0.1 acre transition station, and installation of fiber optic line within the underground duct bank.

In addition to the new 230 kV electric transmission lines and new overhead to underground transition station and cable poles, there are proposed modifications to the Sycamore Canyon, Miguel, and Old Town Substations to accommodate the new 230 kV lines. All proposed modifications would occur within existing substation properties.

At the Sycamore Canyon Substation, the project consists of installation of 230 kV line breakers, 230 kV disconnect switches, bus and equipment support structures, associated controls, and relays and communications equipment. At the Miguel Substation, the project consists of installation of two 80-foot dead-end structures, a 110-foot steel pole, 230 kV line breakers, 230 kV disconnect switches, bus and equipment support structures, associated controls, and relays and communications equipment. At the Old Town Substation, the project consists of installation of 230 kV line breakers, 230 kV disconnect switches, 230 kV disconnect switches, 230 kV terminators surge arrestors, equipment support structures, and relays and communications equipment.

1.2 Environmental Setting of the Proposed Project

The Proposed Project evaluated in this EIR includes approximately 18 miles of new overhead 230 kV electric transmission line to be located within an existing established SDG&E overhead utility ROW and ten miles of new 230 kV cable to be located underground primarily within SDG&E ROW and City of San Diego roadways. The new 230 kV electric transmission line and other primary project components evaluated in this EIR would cross the cities of San Diego, Chula Vista, National City and unincorporated areas in the eastern portion of San Diego County, as well as the U.S. Marine Corps Air Station Miramar (MCAS) and is adjacent to the U.S. Naval Station San Diego and the Sweetwater Marsh Natural Wildlife Refuge (see *Figure ES-1*). The Proposed Project follows an existing SDG&E ROW from Fanita Junction to the Miguel Substation through rough foothills, mesas, steep valleys and ravines. From the Miguel Substation to the South Bay Power Plant, the Proposed Project continues within the SDG&E ROW through residential and urban areas of the City of Chula Vista, where a wide range of land uses are near or adjacent to the Proposed Project route, including commercial and industrial uses, residential developments and parks. From the South Bay Power Plant to the Sicard Street Transition area, the project continues within the SDG&E ROW near the San Diego Bayfront.

Land uses near or adjacent to this segment of the route include commercial, industrial and the Sweetwater Marsh Natural Wildlife Refuge. From the Sicard Street Transition Area to the Old Town Substation, the project is located underground within City of San Diego roadways primarily within commercial and industrial areas.

1.3 Summary of Public Involvement Activities

The CEQA EIR process for the OMPPA Transmission Project began with the CPUC's issuance of the Notice of Preparation (NOP) of an EIR.

- The CPUC issued the NOP on July 21, 2004 and distributed it to the State Clearinghouse (SCH No. 2004071138) and federal, State, and local trustees and agencies that may be affected by the Proposed Project. Public notification of the NOP included direct agency and public notification, newspaper announcements, and posting on the project website: http://www.dudek.com/cpuc/sdge-omppa-trans-proj/. The NOP was sent to 15 federal agency departments, 24 State agency departments, 74 local agency departments and special districts, and 18 Native American groups. A copy of the NOP may be viewed on the project website. Public notification was sent to over 3,000 stakeholders including property owners within 300 feet of the Proposed Project.
- Three scoping meetings were held in August 2004 prior to the selection of alternatives and the preparation of the analysis documented in this EIR. The scoping meetings were held on August 3, 2004 at the Balboa Park Club in the City of San Diego and on August 4, 2004 at the City of Chula Vista's Council Chambers.
- Forty-one members of the public, including representatives of organizations and government agencies were documented in attendance at the three CPUC scoping meetings.
- Twenty-two (22) letters were received during the NOP scoping period (July 23 to August 23, 2004) from public agencies and private citizens. In September 2004, a comprehensive Scoping Report was issued summarizing concerns received from the public and various agencies. Commenting agencies and scoping meeting attendees were notified that the Scoping Report was on the CPUC's website available for review.
- In November 2004, public notification of SDG&E's amended project was sent out to the NOP mailing list consisting of federal, State, local agencies, private organizations, interested groups and the general public.

1.4 Areas of Controversy/Public Scoping Issues

Written and oral comments were received during the CEQA scoping process from the general public as well as the following federal, state and local agencies, private and public organizations:

Federal Agencies

Bureau of Indian Affairs U.S. Fish and Wildlife Service

State Agencies

California Department of Toxic Substances California Department of Transportation, District 11 Governor's Office of Planning and Research, State Clearinghouse and Planning Unit Native American Heritage Commission

Local Agencies and Planning Groups

City of Chula Vista City of San Diego, Development Services Department City of San Diego, Land Development Review Division Centre City Development Corporation County of San Diego, Department of Planning and Land Use San Diego County Water Authority, Right of Way Department San Diego Unified Port District, Land Use Department Sweetwater Authority

Public and Private Organizations

Calpine Corporation Crossroads II Downtown San Diego Partnership Duke Energy North America Environmental Health Coalition Green Party of San Diego San Diego Convention Center Corporation San Diego County Hispanic Chamber of Commerce San Diego County Archaeological Society San Diego Gas and Electric Sierra Club Southbay Green American Design, Inc The majority of public comments focused on the potential impacts of the OMPPA Transmission Project on the human environment, most often expressing concerns with issues arising from above ground transmission lines in the City of Chula Vista and below ground transmission lines in the City of San Diego. Many commentors stated that the City of Chula Vista has previously received a disproportionate amount of effects from existing electric lines. Many comments also focused on impacts to existing land use plans, visual and scenic impacts, and health concerns related to increased electric and magnetic field (EMF) emissions. Other concerns dealt with biological resources, public services and utility issues, traffic and noise.

The specific issues raised during the public scoping process are summarized below according to the following major themes:

- Project Description and Objectives
- Alternatives
- Human Environment Issues
- Natural Environment Issues

Project Description and Objectives

The project description and objectives were addressed in several comments from agencies, organizations, and individuals associated with, or living in, the City of Chula Vista. Public comments expressed concern that SDG&E is piecemealing a larger project, and has filed a number of requests for transmission upgrades or changes in the region including: the Proposed Project, the Miguel-Mission 230 kV No. 2 Project, planned additional coastal permit conformation for Chula Vista/National City Bayfront, amongst others. It was also stated that SDG&E must disclose the need for the current project as well as identify alternatives for a more permanent solution for relieving the regional congestion outside the proposed transmission corridor. Several comments stated that the proposed project will increase SDG&E's ability to import and export power into California from other more polluted sources with less stringent environmental laws than California, such as Mexico and Arizona, and that the impacts from these other sources should be included in the EIR.

Alternatives

Many comments from individuals and organizations and a number of government agencies suggested alternatives, including the No Project Alternative, alternative routes, no wires alternative, and an underground alternative through the City of Chula Vista portion of the project. The most frequently discussed alternatives included undergrounding the project through the City of Chula Vista to avoid potential conflicts with bayfront land use plans, the Sweetwater

Marsh National Wildlife Refuge, and aesthetics. Some comments suggested moving the lines back to Bay Boulevard, and others suggested an alternative route through rural areas.

Alternatives for a more permanent solution for relieving the regional transmission congestion outside the proposed transmission corridor were suggested, along with an alternative to remove the South Bay Power Plant resulting in no new lines in the Chula Vista Bayfront Master Plan planning area. Several comments suggested alternatives using cleaner and/or renewable power sources, and other comments included repowering the South Bay Power Plant as an alternative.

Human Environment Issues

Nearly all of the public and agency comments raised strong concerns regarding the potential impacts of the OMPPA Transmission Project on the human environment, most often expressing concerns with, conflicts with planned uses, environmental justice issues, and visual impacts. Other concerns dealt with traffic and transportation, utilities and services, recreation, construction impacts, and health risks and safety issues.

Natural Environment Issues

Comments from organizations, individuals, and government agencies addressed issues and concerns with the potential impacts that the OMPPA Transmission Project would have on the natural environment, particularly impacts to plants, wildlife, and habitats, including sensitive areas and the Sweetwater Marsh National Wildlife Refuge. A few comments were provided discussing geology and water quality issues that should be addressed in the EIR.

2. ALTERNATIVES

Alternatives to SDG&E's Proposed Project are identified and evaluated in accordance with CEQA Guidelines. CEQA Guidelines (Section 15126.6[a]) state:

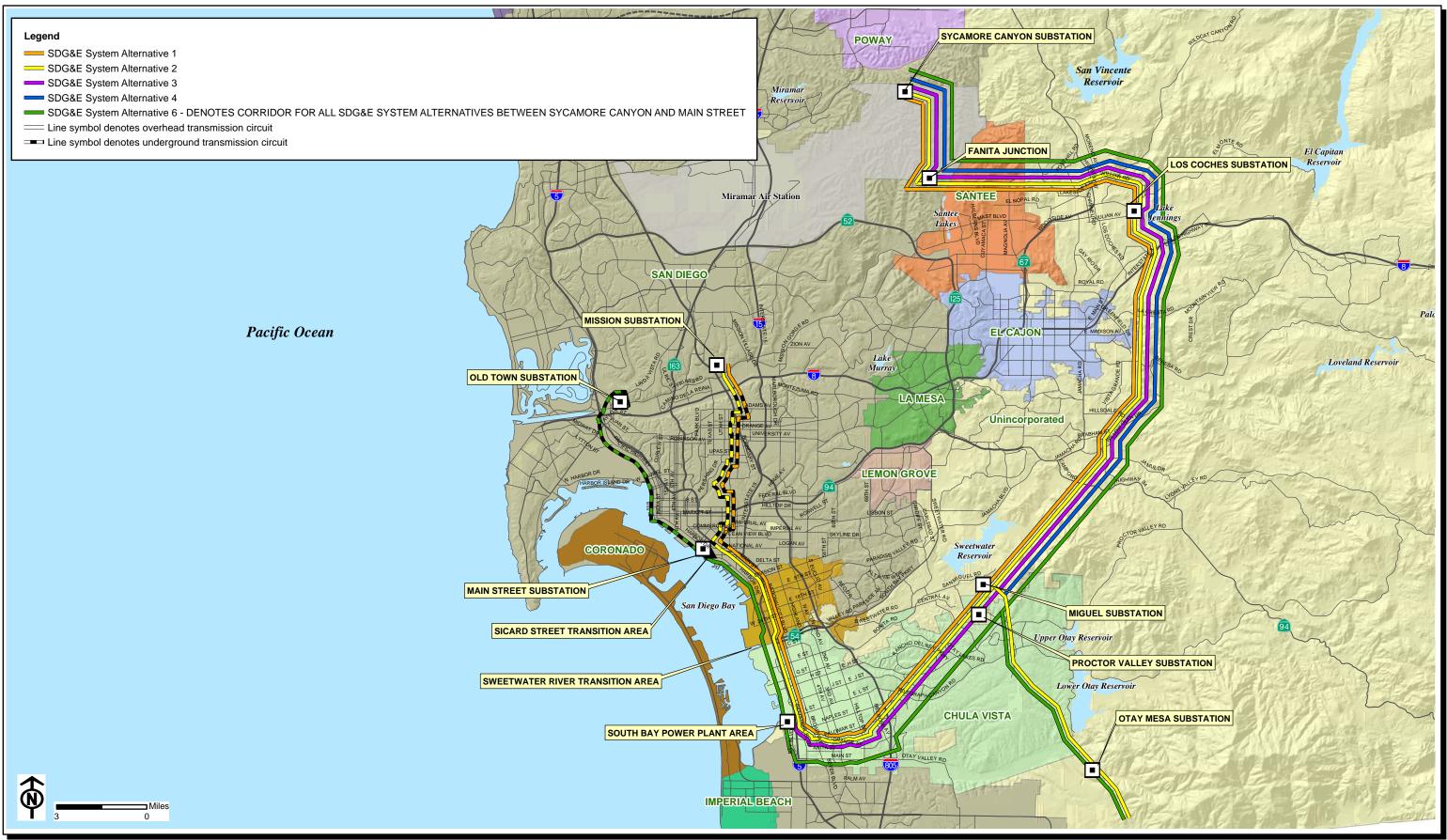
An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. CEQA Guidelines (Section 15364) define feasibility as:

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

Alternatives to the Proposed Project were suggested during the scoping period (July – August 2004) by the general public, and federal, State and local agencies in response to the NOP. Other alternatives were developed by EIR preparers or presented by SDG&E in its PEA. In total, approximately 30 alternatives were identified that range from minor design variations/options to SDG&E's proposed 230 kV project, to entirely different transmission line routes, to various system alternatives, to alternative energy technologies, as well as non-wires alternatives. "Non-wire alternatives" include methods of meeting project objectives that do not require major transmission lines (e.g., baseload generation, distributed generation, renewable energy supplies, conservation and demand-side management, etc.).

Alternatives to the Proposed Project were screened according to CEQA guidelines to determine those alternatives to carry forward for analysis in the EIR and alternatives to eliminate from detailed consideration. The alternatives were primarily evaluated according to: (1) whether they would meet most of the basic project objectives; (2) whether they would be feasible considering legal, regulatory and technical constraints; and (3) whether they have the potential to substantially lessen any of the significant effects of the Proposed Project. Other factors considered, in accordance with CEQA Guidelines (CEQA Guidelines Section 15126.6[f]), were site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites. Economic factors or costs of the alternatives (beyond economically feasible) were not considered in the screening of alternatives since CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives or would be more costly" (CEQA Guidelines Section 15126.6[b).

The detailed results of the alternatives screening analysis are contained in Appendix 2 to this EIR (Alternatives Screening Report). A summary description of the alternatives considered and the results of screening are provided below. *Figures ES-2, ES-3 and ES-4* illustrate the geographic locations of all alternatives considered for EIR analysis.

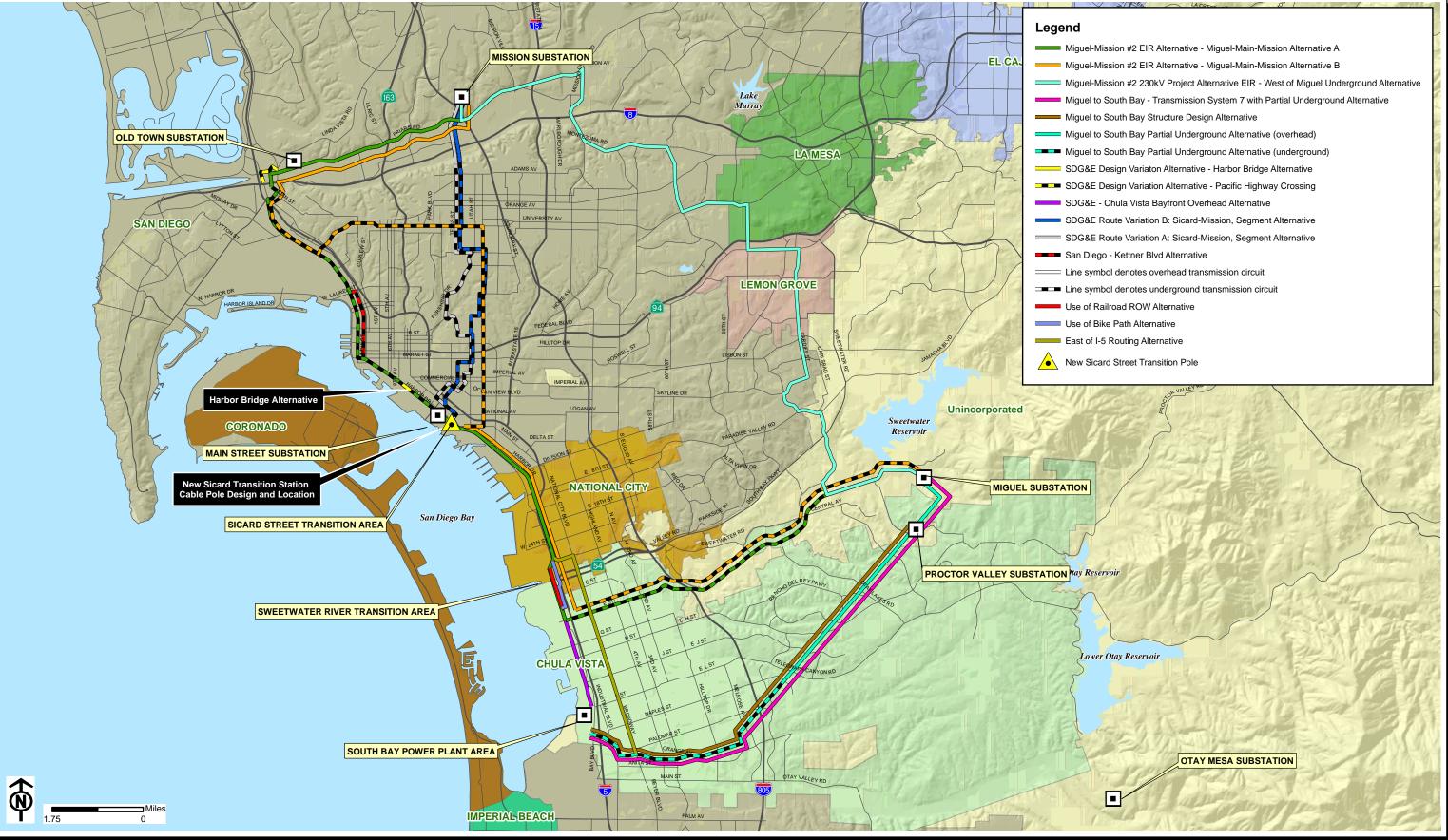


BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

Overview of All Alternatives Considered in Screening Analysis - SDG&E PEA System Alternatives

OMPPA Transmission Project - Alternatives Screening Report



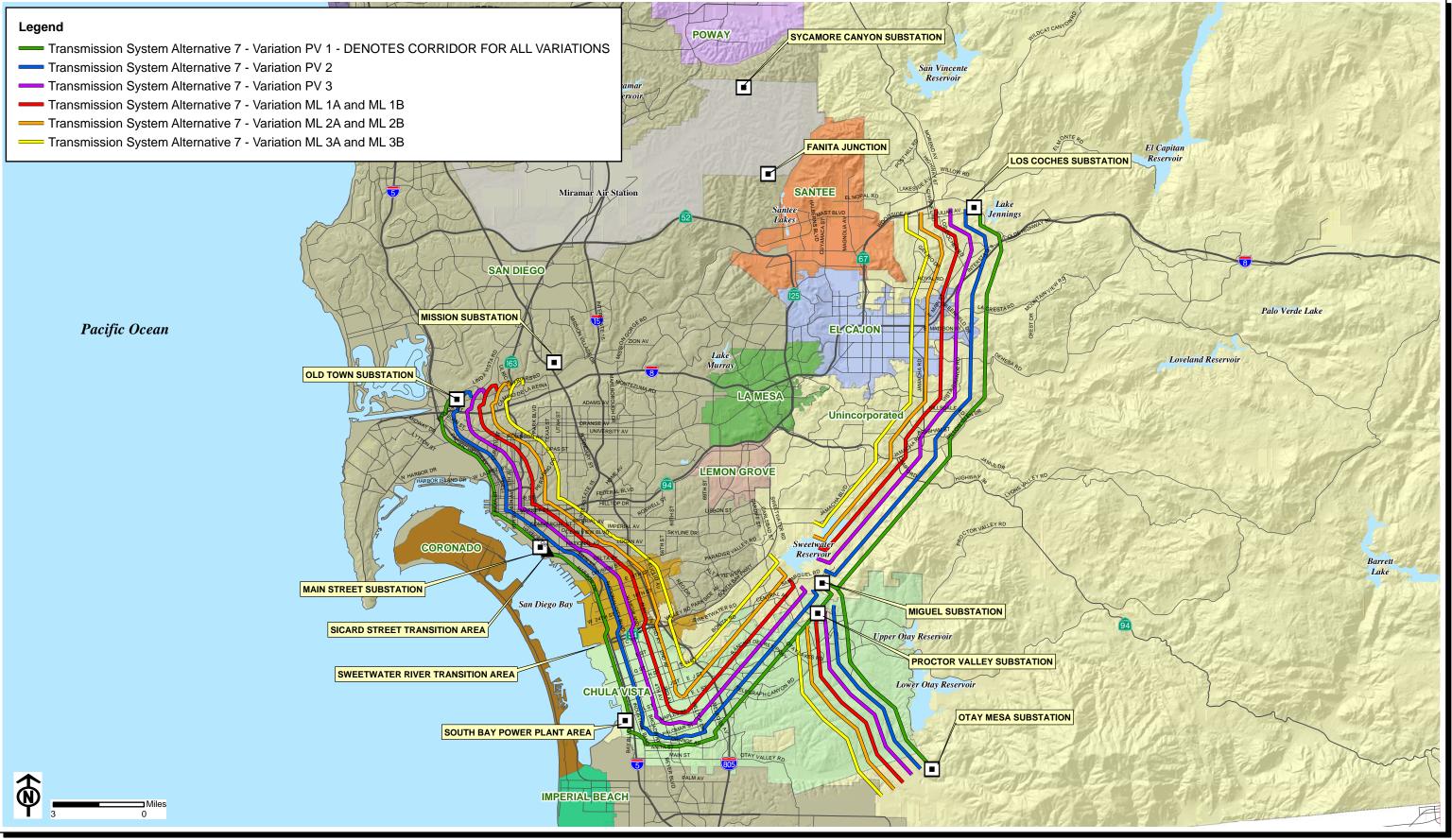


BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

Overview of All Alternatives Considered in Screening Analysis Route and Design Variations

OMPPA Transmission Project - Alternatives Screening Report





BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

Overview of All Alternatives Considered in Screening Analysis - Transmission System Alternative 7 and Variations

OMPPA Transmission Project - Alternatives Screening Report



2.1 Alternatives Fully Evaluated in the EIR

2.1.1 SDG&E Design Options

Pacific Highway Bridge Attachment Design Alternative

<u>Description</u>: The Pacific Highway Bridge Attachment Design Alternative is the same as the OMPPA Transmission Project, except in the vicinity of where the Miguel-Old Town 230 kV underground line crosses the San Diego River. Under this alternative, the 230 kV line cable would be attached to the Pacific Highway Bridge rather than directional drilled under the San Diego River as proposed by the OMPPA Transmission Project.

At approximately mile-post 51, the proposed OMPPA underground transmission line would diverge from the alignment proposed by SDG&E and continue north along the Pacific Highway Bridge. The transmission line would be attached to the west side of the Pacific Highway Bridge for a distance of approximately 900 feet. On the north side of the Pacific Highway Bridge, the transmission line cable would again be placed in an underground trench in City of San Diego Streets, including Anna Avenue, Sherman Street, Banks Street, and Linda Vista. At the intersection of Linda Vista and Morena Boulevard, the 230 kV underground line alignment to the Old Town Substation would again rejoin SDG&E's proposed OMPPA Transmission Project route. This design variation alternative would increase the length of the transmission corridor over the OMPPA Transmission Project by 1,400 feet.

<u>Rationale for Full Analysis</u>: The Pacific Highway Bridge Attachment Alternative meets the criteria for project objectives, feasibility, and lessening environmental effects of the Proposed Project by avoiding potentially significant environmental impacts to soils, water resources and biological resources that could result from directional drilling under the San Diego River, while not resulting in potentially more overall environmental impacts than the Proposed Project.

Sicard Street Transition Cable Pole Design Alternative

<u>Description</u>: The Sicard Street Cable Pole Design Alternative is an alternative to the Sicard Street Transition Station. The alternative cable pole design would be approximately 145 feet in height. This structure would require a substantially smaller footprint for the single pole design, compared to the proposed 230 kV transition station that would be 100 feet by 50 feet in size. Aside from the design of the transition structures, this alternative would not alter any other aspects of SDG&E's proposed OMPPA Transmission Project.

<u>Rationale for Full Analysis</u>: The Sicard Street Transition Cable Pole Design Alternative meets the criteria for project objectives, feasibility and lessening environmental effects. It would minimize land use impacts due to the smaller footprint required, while not resulting in potentially more overall environmental impacts than the Proposed Project.

Harbor Drive Bridge Cable Attachment Design Alternative

Description: With the exception of the crossing of the Harbor Drive Bridge, this alternative is the same as the proposed OMPPA Transmission Project. The Harbor Drive Bridge is located near mile-post 46 adjacent to Petco Park in downtown San Diego. The Harbor Drive Bridge Attachment Design variation is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. At the southern end of the Harbor Drive Bridge, the underground cable would emerge from its underground configuration where it would attach to the east side of the Harbor Drive Bridge. The new 230 kV line would continue north attached to the east side of the Harbor Drive Bridge. At this point on the north side of the Harbor Drive Bridge, the new 230 kV line would transition underground and rejoin the OMPPA Transmission Project alignment.

<u>Rationale for Full Analysis</u>: The Harbor Drive Bridge Cable Attachment Alternative meets the criteria for project objectives, feasibility, and lessening environmental effects. It minimizes construction activities and associated disruptive activities in the Harbor Drive area, while not resulting in more overall environmental impacts than the Proposed Project.

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative

<u>Description</u>: The South Bay Power Plant Area to Sweetwater River Overhead Design Alternative would be consistent with SDG&E's original proposed project, as described and evaluated in the PEA (SDG&E 2004a). This alternative would be the same as the Proposed Project, except along the Chula Vista Bayfront, between the South Bay Power Plant Area and Sweetwater River where this alternative would consist of the following actions and components:

- Installation of a new overhead 230 kV line, to be supported on new double line steel poles from west of I-5 (new structure number 510) to the SDG&E bridge structures (existing structure 18491). Approximately seven new steel pole structures would be installed along approximately 3,000 feet of SDG&E's existing ROW;
- Installation of a new overhead 230 kV line, on 18 existing and modified SDG&E bridge structures, from existing bridge structure 189491 to structure 189507 to north of the Sweetwater River. This segment would extend from east of the South Bay Substation to

north of the Sweetwater River. From north of the Sweetwater River, the alternative would be the same as the proposed OMPPA Transmission Project.

Rationale for Full Analysis: The South Bay Power Plant to Sweetwater River Overhead Design Alternative meets all the stated project objectives and potentially meets environmental considerations and regulatory feasibility criteria. While this alternative would minimize impacts to the Sweetwater Marsh National Wildlife Refuge, its ability to lessen environmental effects of the Proposed Project and legal/regulatory feasibility would depend on its compatibility with applicable land use plans and policies relevant to the City of Chula Vista Bayfront and on the regulatory feasibility due to coastal permit issues within the City of Chula Vista. Because this alternative would minimize impacts to the Sweetwater Marsh National Wildlife Refuge due to the elimination of boring under the Refuge, it was recommended to be carried forward to full EIR analysis.

2.1.2 Transmission System Alternative

Transmission System Alternative 7 PV1 Variation - Miguel to South Bay Power Plant Area

Description: In response to the NOP and public scoping comments, the CPUC Energy Division's EIR Team developed a conceptual Transmission System Alternative 7 PV1 Variation that would have the potential to avoid and minimize visual and land use impacts along almost the entire length of the proposed OMPPA Transmission Project in the City of Chula Vista, between the Proctor Valley Substation and the South Bay Power Plant Area. Transmission System Alternative 7 PV1 Variation is a transmission system alternative to Segment 2 of the proposed OMPPA Transmission Project between the Miguel Substation to the South Bay Power Plant. This alternative would create one 138/230 kV tubular steel pole line and eliminate the existing 138 kV lattice towers from the Proctor Valley Substation to the South Bay Substation. Aside from the changes to Segment 2, this alternative would not alter any other aspects of the proposed OMPPA Transmission Project.

Between the Miguel Substation and the South Bay Substation area, Transmission System Alternative 7 PV1 Variation would consist of the following elements:

- Construction of approximately 63 new double line transmission steel poles between Miguel and South Bay substations, primarily within SDG&E's existing ROW (same as in proposed OMPPA Transmission Project);
- Installation of a new Miguel-Old Town 230 kV line on one position of the new double line transmission poles that would constitute the Miguel to South Bay portion of the proposed Otay Mesa to Old Town transmission line (same as Proposed Project). West of I-5, the 230 kV line would transition underground and follow SDG&E's proposed

underground segment along the Chula Vista Bayfront, to the Sweetwater River crossing (same as Proposed Project);

- Replacement of one of the existing 138 kV lines (currently on the lattice steel towers) on the second position of the new double line steel poles from South Bay Substation to Telegraph Canyon Substation and from Telegraph Canyon Substation to Proctor Valley Substation. This line would replace the portion of the existing 138 kV line that is connected to the noted substations;
- Retention of the existing 138 kV double line lattice towers between the Proctor Valley and Miguel substations and the addition of a second 138 kV line from Miguel Substation to Proctor Valley Substation;
- Removal of the portion of the existing South Bay to Los Coches 138 kV line between South Bay and Proctor Valley substations;
- Removal of the existing 138 kV lattice towers from the South Bay Substation Area to the Proctor Valley Substation;
- Addition of a second 230-138 kV transformer at the Miguel substation;
- Addition of necessary 138 kV bus work at Proctor Valley to (1) connect the remaining portion of the to South Bay to Los Coches138 kV line (i.e. the portion between Proctor Valley and Los Coches) into Proctor Valley Substation and (2) connect the new 138 kV line from Miguel into Proctor Valley substation;
- Replacement of one existing 138 kV-69kV transformer at Los Coches with a larger transformer.

Rationale for Full Analysis: Transmission System Alternative 7 PV1 Variation meets the criteria for project objectives, feasibility and lessening environmental effects of the Proposed Project. By combining the 138/230 kV lines on one structure and thereby eliminating existing lattice structures between the Proctor Valley and South Bay Substation, this alternative would eliminate long-term significant visual impacts to less than significant to almost the entire ROW within the City of Chula Vista.

2.2 Alternatives Eliminated from Full EIR Evaluation

The alternatives listed below were evaluated for their potential to meet CEQA requirements but were ultimately eliminated from consideration in the EIR. *Figures ES-2, ES-3 and ES-4* depict the location of each alternative addressed in this section. A more detailed description of each alternative and the rationale for its consideration and elimination is presented in Draft EIR *Appendix 2, Alternatives Screening Report.*

SDG&E System Alternative 1

<u>Description</u>: This alternative was evaluated by SDG&E in the PEA (March 2004). System Alternative 1 would require the construction of two 230 kV lines from the Miguel area with one line going to the Sycamore Canyon Substation and other to the Mission Substation. This alternative has the ability to bypass the Miguel Substation by the addition of 230 kV line tap breakers at the Miguel Substation. This project would entail the following actions:

- Construction of a new, second 230 kV line, that would be installed on existing overhead transmission structures between the Miguel and Sycamore Canyon Substations. This alternative would also require the installation of approximately five new structures at Fanita Junction;
- Construction of a new 230 kV line between the Miguel and Mission Substations, including:
 - New 230 kV structures and line from the Miguel Substation to South Bay Area.
 SDG&E estimates that (69) new poles would be required over a distance of approximately 10 miles;
 - Modification of approximately 45 existing 138 kV bridge tower structures to support the new 230 kV line from South Bay to Main Street;
 - Installation of new 230 kV underground trench from Main Street to just south of Interstate 8 in Mission Valley, a distance of approximately 8.2 miles;
 - Replacement of existing 138 kV and 69 kV structures with 230 kV structures for 1.5 miles to bring the new 230 kV line in an overhead position into the Mission Substation. It is estimated that approximately seven new structures could be required.
- Addition of new 230 kV equipment at the Mission and Sycamore Canyon Substations.

Rationale for Elimination: SDG&E System Alternative 1 meets most of SDG&E's stated objectives and is considered feasible. This alternative however, would not lessen any of the significant environmental effects of the proposed OMPPA Transmission Project. Rather, SDG&E System Alternative 1 would create additional new significant environmental impacts to residential and commercial areas of San Diego, from the Main Street Substation to the Mission Substation, where the line would be routed underground through dense residential neighborhoods, and overhead on new structures across I-8 and Mission Valley.

SDG&E System Alternative 2

<u>Description</u>: This alternative is the same as SDG&E System Alternative 1, except that it builds on System Alternative 1 by adding a new 230 kV line between Otay Mesa Substation and the Miguel Substation. This alternative was evaluated by SDG&E in the PEA and would entail all the components listed in System Alternative 1, plus:

- Construction of a new, third 230 kV transmission line between the Miguel and Otay Mesa substations. This line would be approximately 7.6 miles in length and constructed on approximately 38 new double-line tubular steel pole structures. In order to make room for this facility in SDG&E's existing right-of-way, a realignment of the existing 230 kV tower structure line would also be required;
- Addition of 230 kV breakers, disconnects, and protection equipment at the Miguel Substation to accommodate the addition of a 230 kV line;
- Bypassing the Otay Mesa Substation to connect the existing 230 kV Otay Mesa Substation to Miguel Substation #3 line, with the Otay Mesa Substation to Tijuana Substation line.

Rationale for Elimination: SDG&E System Alternative 2 meets most of SDG&E's stated objectives and is considered feasible. SDG&E System Alternative 2, however, does not avoid or lessen any of the significant impacts associated with the proposed OMPPA Transmission Project. SDG&E System Alternative 2 would result in all of the impacts of the proposed OMPPA project, plus additional construction-related impacts to sensitive residential neighborhoods, between the Main and Mission Substations, and new significant construction-related noise, traffic and dust as well as permanent land use and visual impacts between the Otay Mesa and Miguel Substations.

SDG&E System Alternative 3

<u>Description</u>: This alternative was evaluated by SDG&E in the PEA (March 2004) and would entail the construction of two 230 kV lines from the Miguel Substation and a new 230 kV/138 kV/69kV substation at the South Bay Power Plant. This alternative would require the following facilities and actions:

- Installation of a new, second 230 kV line on existing structures between the Miguel and Sycamore Canyon Substations, with approximately five new poles installed near Fanita Junction;
- Construction of a new 230 kV transmission line between the Miguel and South Bay substations, including construction of approximately 68 new overhead transmission

structures and a 230 kV line within SDG&E's existing right-of-way between the Miguel Substation and the South Bay Area;

- Addition of 230 kV breakers, disconnects, and protection equipment at the Sycamore Canyon Substation to accommodate the addition of the line;
- Bypassing the Miguel Substation to connect the 230 kV Otay Mesa Substation to Miguel Substation #1 with Miguel Substation to Sycamore Canyon Substation #2;
- Bypassing the Miguel Substation to connect the 230 kV Otay Mesa Substation to Miguel Substation #2, with Miguel Substation to South Bay Power Plant;
- Construction of a new 230 kV/138 kV/69kV substation at the South Bay Power Plant with two 230 kV/138 kV transformers, two 138 kV/69kV transformers, and up to four 230 kV line positions.

<u>Rationale for Elimination</u>: While SDG&E System Alternative 3 would reduce and avoid some of the Proposed Project's significant environmental effects between the Sicard Station and Old Town Substation, this alternative would not meet most of SDG&E's stated objectives.

SDG&E System Alternative 4

<u>Description</u>: SDG&E System Alternative 4 was evaluated by SDG&E in the PEA (March 2004) and would entail the construction of a new 230 kV line between the Miguel and Sycamore Canyon substations. According to SDG&E, most of the 230 kV line would be constructed on the vacant side of the Miguel Substation to Mission Substation #2 structures. The actions required with this alternative include:

- Installation of a new, second 230 kV line on existing overhead transmission structures for approximately 85% of the line between the Miguel and Sycamore Canyon Substations. Five new structures would be required at Fanita Junction;
- Addition of new 230 kV breakers, disconnects, and protection equipment at the Miguel and Sycamore Canyon substations in order to accommodate the addition of a line;
- Addition of a new 203kV line tap breaker at the Miguel Substation to directly bypass the Miguel Substation This tap breaker, would thereby create an Otay Mesa Substation to Sycamore Canyon Substation 230 kV transmission line.

Rationale for Elimination: SDG&E System Alternative 4 is feasible and lessens environmental effects. However, it does not meet project objectives. This alternative would not offer the full dispatchability and delivery of the Otay Mesa Power Plant, would increase rather than lessen congestion north of the Miguel Substation and would not reduce RMR costs.

SDG&E System Alternative 6

<u>Description</u>: This alternative is the same as SDG&E System Alternative 5 (the Proposed OMPPA Transmission Project), except: (1) the 230 kV line would be installed overhead on new double line structures or existing or modified SDG&E bridge structures, along the Chula Vista Bayfront; and (2) this alternative adds another new 230 kV line between the Otay Mesa Substation and the Miguel Substation. This alternative was evaluated by SDG&E in the PEA (March 2004) and would require the following components and activities:

Activities and components associated with this system alternative are:

- Construction of a new, second 230 kV transmission line between the Miguel and Sycamore Canyon Substations. This line would primarily be installed on existing structures, although approximately five new poles would be required near Fanita Junction;
- Addition of 230 kV breakers, disconnects, and protection equipment at the Sycamore Canyon Substation to accommodate the addition of the second transmission line. These modifications would allow the new line to bypass the Miguel Substation, thereby connecting the Otay Mesa Power Plant directly with the Miguel-Sycamore Canyon 230 kV line;
- Construction of a new 230 kV transmission line between the Miguel and Old Town Substations. Construction of this line would entail the following segments:
 - -- Construction of a new 230 kV line on approximately 69 new steel poles, within SDG&E's existing right-of-way, between the Miguel Substation and the South Bay area;
 - -- Installation of a new 230 kV line on SDG&E's existing bridge tower structures from the South Bay Substation area to just south of the Main Street Substation. This component would entail modifying approximately 45 existing bridge structures;
 - -- Installation of a new 230 kV line within a new underground trench from the Sicard Street Transition Area to the Old Town Substation. This would also require the installation of a new Sicard Street Transition station to transition the 230 kV line from overhead to underground;
- Bypassing the Miguel Substation to connect the 230 kV Otay Mesa Substation to Miguel Substation line with the Miguel Substation to Old Town Substation line;

- Addition of 230 kV breakers, disconnects and protection equipment at the Old Town Substation to accommodate the addition of a line.
- Construction of a new, third 230 kV transmission line for 7.6 miles between the Miguel and Otay Mesa substations. This line would either be built on approximately 37 new double-line steel pole structures, and require the realignment of the existing 230 kV lattice towers within the right-of-way, or would require that the new 230 kV line be undergrounded;
- The addition of new 230 kV breakers, disconnects and protection equipment at the Miguel Substation to accommodate the new transmission line;
- Bypassing the Otay Mesa Substation to connect the 230 kV Otay Mesa-Miguel line with the Otay Mesa-Tijuana line.

Rationale for Elimination: SDG&E System Alternative 6 would meet SDG&E's stated objectives and could potentially meet the CEQA feasibility criteria if the alternative were modified to be consistent with SDG&E's recent MOU with the City of Chula Vista. However, SDG&E System Alternative 6 does not avoid or lessen any of the significant impacts associated with the OMPPA Transmission Project. Furthermore, the alternative would create new and additional potentially significant environmental impacts between the Otay Mesa Substation and the Miguel Substation.

Partial Underground Alternative – Miguel to South Bay

<u>Description</u>: The Partial Underground Alternative - Miguel to South Bay would replace the OMPPA Transmission Project in the City of Chula Vista, between proposed structure numbers 230 and 510. All other aspects of the OMPPA Transmission Project would remain unchanged.

This alternative was developed by the EIR Team to consider underground options within SDG&E's right-of-way in the City of Chula Vista. The alternative was defined based on terrain and vegetation conditions within SDG&E's right-of-way that would allow underground construction practices. The Partial Underground Alternative would extend from south of Telegraph Canyon Road (structure no. 230) to west of I-5 (structure no. 510) a distance of approximately 4.8 miles. Areas to the east, between the Miguel Substation and structure 230 were not considered for this alternative, since SDG&E's right-of-way crosses several canyons and steep slopes, as well as sensitive habitats. West of I-5, this alternative could be combined with SDG&E's proposed OMPPA Transmission Project, and the 230 kV line could continue underground along the Chula Vista Bayfront to south of the Sweetwater River.

This alternative would include the following components:

- Installing a new overhead 230 kV line overhead on approximately 28 new single steel poles, between the Miguel Substation and structure 230, south of Telegraph Road. Along this part of the right-of-way, this alternative would be the same as SDG&E's proposed OMPPA Transmission Project.
- Installing a new 230 kV line underground, within SDG&E's existing right-of-way, from near structure 230, south of Telegraph Road to west of I-5, near structure 510. West of I-5 this alternative could be combined with SDG&E's proposed OMPPA Project and continue underground along the Chula Vista bay front to south of the Sweetwater River. Borings would be required at the crossings of I-805, I-5 and the railroad.
- Installing a new 230 kV cable pole near proposed structure 230 south of Telegraph Canyon Road to transition the 230 kV line from overhead to underground.

Rationale for Elimination: The Partial Underground Alternative - Miguel to South Bay meets the stated project objectives and is feasible but does not lessen environmental effects. This alternative only partially avoids significant visual impacts from the Miguel Substation to the South Bay Power Plant and would increase the short-term construction-related impacts to biological resources and residential communities due to increased traffic, noise, and air emissions associated with trenching and boring activities.

Transmission System 7 with Partial Underground – Miguel to South Bay

<u>Description</u>: The Transmission System 7 with Partial Underground – Miguel to South Bay would replace the proposed OMPPA Transmission Project in the City of Chula Vista, from the Proctor Valley Substation to the South Bay Substation area, west of I-5. All other aspects of the OMPPA Transmission Project would remain unchanged by this alternative.

Transmission System 7 with Partial Underground – Miguel to South Bay was developed by the EIR Team as an alternative to minimize visual and land use impacts to the City of Chula Vista. This alternative would extend from the Miguel Substation to the South Bay Substation area. The alternative is essentially a combination of Transmission System Alternative 7 PV1 Variation and the Partial Underground Alternative, described above. The CPUC developed this alternative as another option for reducing the visual impacts of the OMPPA Transmission Project along the entire length of the Proposed Project's Miguel to South Bay segment. This alternative would entail the following actions and facilities between the Miguel Substation and South Bay Substation area:

- Construction of 5.2 miles of new overhead double line 230 kV/138 kV steel pole structures, from the Miguel Substation to south of Telegraph Canyon Road (near proposed structure 230). Approximately 28 new structures would be needed to support the proposed 230 kV line and one of the existing 138 kV lines;
- Removal of 17 existing 138 kV lattice structures, from Proctor Valley Substation to south of Telegraph Canyon Road (between structure 188657 and 188673);
- Installation of a cable pole transition, near proposed structure 230, to transition the 230 kV line from overhead to underground;
- Installation of approximately 4.8 miles of a 230 kV underground line, within SDG&E's existing right-of-way, from south of Telegraph Canyon Road to west of I-5 (between proposed structures 230 and 510).

This alternative would have the same system characteristics as Transmission System Alternative 7 PV1 Variation, and would entail removing a portion of one of the existing 138 kV lines between the Miguel and South Bay substations, by connecting the 138 kV line into the Miguel 138 kV bus and utilizing the open position for the new 230 kV line between Miguel and South Bay. As a consequence, the Transmission System 7 with Partial Underground potentially eliminates the need for a second set of new transmission structures between the Proctor Valley Substation and structure 510, south the South Bay Substation.

Rationale for Elimination: The Transmission System 7 with Partial Underground Alternative meets the stated project objectives and is feasible, but does not lessen the environmental effects of the Proposed Project. While this alternative would reduce significant visual impacts of the OMPPA Transmission Project, from the Proctor Valley Substation to west of I-5 similar to the Transmission System Alternative 7, this alternative, unlike the Transmission System Alternative 7, would substantially increase the short-term construction-related impacts to traffic, noise, air emissions, and community disruptions due to the development of the underground segment between Telegraph Canyon Road and the South Bay Power Plant.

Structure Design Alternative – Miguel to South Bay

<u>Description</u>: The Structure Design Alternative – Miguel to South Bay would replace the proposed OMPPA Transmission Project 230 kV line from the Miguel Substation to the vicinity of the South Bay Substation. All other aspects of the OMPPA Transmission Project would remain unchanged by this alternative.

The Miguel to South Bay Structure Design Alternative would consist of placing both of the existing 138 kV lines and the proposed 230 kV line on one set of single steel pole structures, between the Proctor Valley Substation and the South Bay Substation area. The structure design

proposed with this alternative would also provide space for an additional, second 230 kV line to be installed in the future, when needed.

This alternative would modify the proposed structure design, between the Miguel Substation and the South Bay Substation Area (to proposed structure 550). The structure design, associated with this alternative, would be suitable for carrying all three lines (i.e., the existing two 138 kV lines, and the proposed OMPPA Transmission Project 230 kV line), plus a future 230 kV line between Miguel and South Bay Substation. This alternative would allow SDG&E to remove the existing lattice structures, along approximately 9.2 miles of SDG&E's right-of-way, and replace them with the taller, single steel pole structures. This alternative would include the following components and actions:

- Construction of 9.2 miles of new 138 kV/230 kV quad line transmission structures between the Miguel Substation and the South Bay substation area, within SDG&E's existing and proposed right-of-way. SDG&E estimates that this design would require approximately 50% more structures. Approximately 85 new quad structures would be installed with this alternative, in total. West of I-5, the quad structures would continue to the South Bay Substation Area, with the 138 kV lines connecting to the South Bay Substation, and the 230 kV lines connecting to the existing SDG&E bridge structures;
- Installation of a new Miguel-Old Town 230 kV line on one position of the new quad line transmission poles that would constitute the Miguel to South Bay portion of the proposed Otay Mesa to Old Town transmission line. West of I-5, the 230 kV line continue on the quad structures to the existing SDG&E bridge structures;
- Removal of approximately 48 existing 138 kV lattice towers, from the Miguel Substation to SDG&E bridge structures, west of I-5.

Rationale for Elimination: The Structure Design Alternative – Miguel to South Bay meets stated project objectives and is feasible, but does not lessen the environmental effects of the Proposed Project. This alternative would require 50% more new structures than the Proposed Project. This alternative would not reduce or avoid any of the significant impacts of the proposed OMPPA Transmission Project and would result in potentially more overall long-term impacts to visual, land use and biological resources and more short-term construction related impacts to traffic, noise, air emissions and community disruptions than the Proposed Project. The alternative would further cause reliability concerns due to the placement of four high voltage lines on one set of transmission structures.

Use of the Caltrans Bike Path – Sweetwater Marsh Avoidance Route

<u>Description</u>: The Use of the Caltrans Bike Path would replace the directional drilling under the Sweetwater Marsh National Wildlife Refuge as proposed under the South Bay Power Plant to Sweetwater River Segment of the OMPPA Transmission Project in the City of Chula Vista. All other aspects of the OMPPA Transmission Project would remain unchanged.

This alternative was considered by SDG&E to avoid and minimize impacts to the Sweetwater Marsh National Wildlife Refuge. This alternative involves the undergrounding of the 230 kV line from the South Bay Power Plant as proposed in the amended project description, but would avoid the Refuge by exiting SDG&E's existing ROW near the proposed southern bore site near existing Tower 189503 and head east to the recently constructed Caltrans Bike Path west of the I-5. The Caltrans Bike Path is approximately eight to nine feet wide. The underground 230 kV transmission cable would continue north for approximately 0.5 mile along the bike path in Caltrans' existing rights-of-way and then transition overhead either on the south side or north side of the Sweetwater River where it would join the proposed OMPPA Transmission Project alignment. Because the bike path footbridge on the south side of the Sweetwater River would not be able to support the 230 kV facilities, the transition cable pole would be located at either the same transition cable pole site proposed under the amended OMPPA Transmission Project, or the alternative would continue north under the Sweetwater River and transition overhead on a cable pole constructed on the north side of the river.

This alternative would include the following components:

- Installation of a new 230 kV line underground, within the bike path located within Caltrans' existing right-of-way; and
- Installation of a new 230 kV cable pole to transition the 230 kV line from overhead to underground. The transition cable pole would be located at either the same cable pole site proposed under the OMPPA Transmission Project or at a site on the north side of the Sweetwater River.

Rationale for Elimination: This alternative meets the stated project objectives and lessens environmental effects. It does not meet regulatory and technical feasibility. This alternative would avoid some of the potentially significant impacts of the OMPPA Transmission Project to the Sweetwater Marsh National Wildlife Refuge. However, it was eliminated due to the technical and regulatory feasibility issues associated with the lack of space of undergrounding in a narrow bike path and the applicable Caltrans right-of-way policies for not allowing longitudinal encroachments in restricted highways (I-5).

Use of the Railroad Right-of-Way – Sweetwater Marsh Avoidance Route

Description: This alternative was considered by SDG&E to avoid and minimize impacts to the Sweetwater Marsh National Wildlife Refuge. This alternative involves the undergrounding of the 230 kV line from the South Bay Power Plant as proposed in the amended project description, but would avoid the Refuge by exiting SDG&E's existing right-of-way and near the proposed southern bore site near existing Tower 189503 and head east to the existing Arizona and Eastern Railway Companies railroad right-of-way located west of the I-5. The railroad right-of-way is approximately 40 feet wide centered on the railroad tracks. The underground 230 kV transmission cable would continue north for approximately 0.5 mile within the railroad ROW and then transition overhead either on the south side or north side of the Sweetwater River where it would join the proposed OMPPA Transmission Project alignment. Because the existing railroad bridge would not be able to support the 230 kV facilities, the transition cable pole would be located at either the same transition cable pole site proposed under the amended OMPPA Transmission Project, or the alternative would continue north under the Sweetwater River and transition overhead on a cable pole constructed on the north side of the river.

This alternative would include the following components:

- Installation of a new 230 kV line underground, within the railroad right-of-way; and
- Installation of a new 230 kV cable pole to transition the 230 kV line from overhead to underground. The transition cable pole would be located at either the same cable pole site proposed under the OMPPA Transmission Project or at a site on the north side of the Sweetwater River

Rationale for Elimination: This alternative meets the stated project objectives. However, it does not meet regulatory and technical feasibility criteria or lessen environmental effects. This alternative would avoid some of the potentially significant impacts of the OMPPA Transmission Project due to proposed boring underneath the Sweetwater Marsh National Wildlife Refuge. However, this alternative could potentially generate more overall temporary impacts to sensitive habitats due to required construction practices (trenching and boring) along the entire railroad right-of-way located adjacent to the Refuge. Additionally, due to the technical feasibility issues associated with placing the 230 kV cable within the narrow railroad right-of-way this alternative has been eliminated from further consideration.

East of I-5 Routing – Sweetwater Marsh Avoidance Route

<u>Description</u>: This alternative would establish an underground route east of I-5 in existing roadways such as Broadway and National City Boulevard and bore underneath SR-54 and the Sweetwater River where it would transition to overhead and join the Proposed Project alignment.

Rationale for Elimination: This alternative meets stated project objectives. However, it does not lessen environmental effects. While this alternative would avoid impacts to the Sweetwater Marsh National Wildlife Refuge, it would generate significant effects to sensitive residential neighborhoods and commercial/retail areas. This alternative would create six miles of new underground utility easement instead of using the existing SDG&E right-of-way. Additional significant impacts to noise, traffic, land use, hazardous materials and utilities would occur due to the additional trenching and boring activities required over a six-mile length within a dense urban environment. This alternative also has legal and regulatory feasibility issues associated with the need to secure easements and land rights.

SDG&E's Route Segment Variation A – Sicard Street to Mission

<u>Description</u>: SDG&E's Route Segment Variation A – Sicard Street to Mission Substation was developed by SDG&E and evaluated in the PEA (March 2004). This variation is a routing alternative to a portion of the 230 kV line proposed by SDG&E between the Miguel to Old Town Substations. Route Segment Variation A would replace the proposed OMPPA Transmission Project from the Sicard Street Transition Station to the Old Town Substation.

SDG&E's Route Segment Variation A – Sicard Street to Mission Substation Alternative would entail terminating the 230 kV line at the Mission Substation, rather than the Old Town Substation. Under this alternative, SDG&E has stated that approximately 6.5 miles of 230 kV line would be installed underground and 1.5 miles installed overhead on new transmission structures. The project alternative consists of the following components:

- Installation of approximately 6.5 miles of underground 230 kV line from the Sicard Street Transition Station to south of I-8, in Mission Valley
- Installation of a 230 kV transition cable pole south of I-8.
- Installation of approximately 1.5 miles of overhead 230 kV line, from the 230 kV transition station to the Mission Substation.

Rationale for Elimination: This alternative meets the stated project objectives and is feasible. While this alternative would avoid some of the significant impacts of the OMPPA Transmission Project, it would displace significant visual, land use, noise, and traffic impacts to other areas of San Diego.

SDG&E's Route Segment Variation B – Sicard Street to Mission

<u>Description</u>: SDG&E considered a variation to Route Segment Variation A – Sicard Street to Mission Substation that would avoid Balboa Park (PEA, March 2004). This routing alternative is termed 'Variation B' in the alternative screening report. The alternative would replace the proposed OMPPA Transmission Project from the Sicard Street Transition Station to the Old Town Substation.

The variation would consist of both overhead and underground segments, with 6.2 miles of underground 230 kV line installed within city streets, and 1.3 miles of overhead line installed on new steel pole structures. This alternative would entail terminating the 230 kV line at the Mission Substation, rather than the Old Town Substation, as proposed for OMPPA Transmission Project. SDG&E's Route Segment Variation B Alternative would entail construction of the following facilities:

- Installation of approximately 6.2 miles of underground 230 kV line from the Sicard Street Transition Station to south of I-8, in Mission Valley.
- Installation of a 230 kV transition cable pole station south of I-8.
- Installation of approximately 1.3 miles of new overhead 230 kV line, from the 230 kV transition station to the Mission Substation.

Rationale for Elimination: This alternative meets the stated project objectives. However, this alternative is not technically feasible. Technical feasibility limitations are due to underground utility congestion along 30th Street. In addition, Route Segment Variation B would not lessen or avoid the significant impacts of the proposed OMPPA Transmission Project, but rather displace those effects to other sensitive residential neighborhoods. New significant, long-term land use and visual impacts would also result to mixed uses in Mission Valley, including impacts to area residents and travelers along I-8.

Kettner Boulevard Underground Route Alternative

Description: The EIR Team developed an alternative route for the underground 230 kV line to minimize potential conflicts with the North Embarcadero Visionary Plan. This alternative was developed in response to recommendations made by the Center City Development Corporation during the NOP Scoping Process. Under this alternative, all aspects of the proposed OMPPA Transmission Project would remain the same, except for the routing of the Sicard Street to Old Town 230 kV underground line between the intersection of West Market Street and North Harbor Drive and the intersection of Laurel Street and Pacific Highway. Facilities and actions associated with this alternative include:

• Installation of approximately 1.3 miles of new underground 230 kV line in portions of Kettner Boulevard and Laurel Street in the City of San Diego

Rationale for Elimination: This alternative meets the stated project objectives. However, this alternative is not technically feasible. Technical feasibility limitations are due to underground utility congestion along Kettner Boulevard. In addition, the Kettner Boulevard Underground Route Alternative would not lessen or avoid the significant impacts of the proposed OMPPA Transmission Project, but rather displace those effects to other commercial, retail and residential areas of the City of San Diego.

SDG&E's New Alternative Routes – Miguel-Old Town, Miguel-Mission, Miguel-Sycamore Canyon and Miguel-Sicard Street

<u>Description</u>: SDG&E considered the feasibility of establishing a new right-of-way and overhead transmission structures and lines between the Miguel Substation and the following SDG&E substations/transition stations: Old Town, Mission, Sycamore Canyon and Sicard Street. These types of alternatives would require the following types of facilities and actions:

- Acquiring a new right-of-way, approximately 150 feet in width;
- Installing new double-line 230 kV transmission structures
- Installing a new 230 kV line

Rationale for Elimination: This type of alternative has not been sufficiently defined as an option to be carried forward for full EIR analysis, and as currently defined would not meet the criteria for feasibility or lessening environmental effects. In addition, this type of alternative may not meet all of SDG&E's stated objectives if the 230 kV line were not routed near the existing South Bay Substation area.

Miguel-Main-Mission A Alternative

<u>Description</u>: The Miguel-Main-Mission A Alternative was originally considered by the CPUC in the Miguel-Mission #2 230 kV Transmission Project EIR (Final EIR, June 2004). This alternative was eliminated from consideration for the Miguel-Mission #2 230 kV Transmission Project EIR analysis, but was reconsidered for the OMPPA Transmission Project, based on SDG&E's stated objectives.

The Miguel-Main-Mission A Alternative would consist of overhead and underground components that would connect the proposed OMPPA 230 kV line between the Miguel Substation and the Mission Substation, as follows:

- Underground 230 kV lines would be installed for approximately 7.9 miles from the Miguel Substation to Bay Boulevard in Chula Vista. Along this segment, the following streets would be followed: San Miguel Road to Bonita Road to E Street to the intersection of E Street and Bay Boulevard,
- A transition station would be required near the intersection of E Street and Bay Boulevard to transition the 230 kV line from underground to overhead.
- Overhead 230 kV line would be installed on SDG&E's existing bridge structures, from a new E Street/Bay Boulevard Transition Station to the Main Street Substation.
- Underground 230 kV lines would be installed from the Main Street Substation to a point south of I-8. Approximately six miles of underground 230 kV lines would be installed along Harbor Boulevard., Pacific Coast Highway, Taylor Street, and Sunset Street.
- A second transition station would be installed near Sunset Street and Gaines Street, where this alternative would need to transition overhead.
- Approximately 0.3 mile of overhead 230 kV line would be installed on steel pole structures to cross the San Diego River and I-8 in the vicinity of the Old Town Substation.
- From the Old Town Substation, the 230 kV line would continue overhead for 3.75 miles to the Mission Substation. The overhead 230 kV line would be strung on one of two existing pole alignments, located on the north side of Friars Road.

Rationale for Elimination: The Miguel-Main-Mission A Alternative meets the stated project objectives and is feasible. While this alternative would reduce potential visual impacts along the SDG&E right-of-way between the Miguel and South Bay substations, it would likely result in substantially greater land use and visual impacts in other highly developed areas of Chula Vista and Mission Valley.

Miguel-Main-Mission B Alternative

<u>Description</u>: The Miguel-Main-Mission B Alternative was originally considered by the CPUC in the Miguel-Mission #2 230 kV Transmission Project EIR (Final EIR, June 2004). This alternative was eliminated from consideration for the Miguel-Mission #2 230 kV Transmission Project EIR analysis, but was reconsidered for the OMPPA Transmission Project, based on SDG&E's stated objectives.

The Miguel-Main-Mission B Alternative would consist of overhead and underground components that would connect the proposed OMPPA 230 kV line between the Miguel Substation and the Mission Substation, as follows:

- Underground 230 kV lines would be installed for approximately 7.9 miles from the Miguel Substation to Bay Boulevard in Chula Vista. Along this segment, the following streets would be followed: San Miguel Road to Bonita Road to E Street to the intersection of E Street and Bay Boulevard.
- A transition station would be required near the intersection of E Street and Bay Boulevard to transition the 230 kV line from underground to overhead.
- Overhead 230 kV line would be installed on SDG&E's existing bridge structures, from a new E Street/Bay Boulevard Transition Station to the Main Street Substation.
- Underground 230 kV lines would be installed from the Main Street Substation to a point south of I-8. Approximately 10.4 miles of underground 230 kV lines would be installed along 30th Street, University Avenue, Washington Avenue, Pacific Coast Highway, to near I-8.
- A second transition station would be installed near Sunset Street and Gaines Street, where this alternative would need to transition overhead.
- Approximately 0.3 mile of overhead 230 kV line would be installed on steel pole structures to cross the San Diego River and I-8 in the vicinity of the Old Town Substation.
- From the Old Town Substation, the 230 kV line would continue overhead for 3.75 miles to the Mission Substation. The overhead 230 kV line would be strung on one of two existing pole alignments, located on the north side of Friars Road.

Rationale for Elimination: The Miguel-Main-Mission B Alternative meets the stated project objectives and is feasible. While this alternative would reduce potential visual impacts along the SDG&E right-of-way between the Miguel and South Bay substations, it would likely result in substantially greater land use and visual impacts in other highly developed areas of Chula Vista, National City, San Diego and Mission Valley.

Miguel-Mission Underground Alternative

<u>Description</u>: The Miguel – Mission Underground Alternative was originally considered by the CPUC in the Miguel-Mission #2 230 kV Transmission Project EIR (Final EIR, June 2004). This alternative was eliminated from consideration for the Miguel-Mission #2 230 kV Transmission Project EIR analysis, but was reconsidered for the OMPPA Transmission Project, based on SDG&E's stated objectives.

The Miguel – Mission Underground Alternative would consist of undergrounding the proposed 230 kV line, from the Miguel Substation to the Mission Substation, and would replace the OMPPA Transmission Project between the Miguel Substation and the Old Town Substation.

Underground 230 kV lines would be installed for approximately 35 miles through unincorporated areas of San Diego County, and portions of the Cities of Lemon Grove and San Diego. This alternative would place the 230 kV lines in county and city streets, and require borings across the San Diego River.

Rationale for Elimination: The Miguel – Mission Underground Alternative meets the stated project objectives and is feasible, but does not lessen the environmental effects. In comparison with the Proposed Project, the construction associated with this 35-mile all-underground alternative would likely result in substantially greater adverse impacts to other residential areas of San Diego and La Mesa.

Non – Wires - South Bay Repower Alternative Project

Description: The Non-Wires– South Bay Repower Alternative was developed in response to public comments during the NOP scoping process. Presently Duke Energy North America (Duke) is the operator of the South Bay Power Plant and the prospective developer of the South Bay Energy Facility. The South Bay Energy Facility is a project intended to replace the existing South Bay Power Plant near the end of this decade. One possible proposal for replacement of the existing power plant would be the installation of a new 630 MW facility located on Port of San Diego property just to the south of the existing facility. Duke is currently working with the Port, City of Chula Vista and other stakeholders and plans to file an application for licensing with the CEC in late 2005. To the extent that this project is completed it may possibly replace the need for 630 MW of other generation on the SDG&E system and thus could be considered as a replacement to the Otay Mesa generation and the associated transmission being considered in this document.

Rationale for Elimination: While this alternative would meet some of SDG&E's stated objectives, it would not support the delivery and dispatchability of power from the planned and approved OMGP. Furthermore, the legal and regulatory feasibility of this alternative is unknown, since the project has not been subject to CEC review and approval. As such, it is unlikely that this type of alternative could be constructed and in operation by 2008. Finally, while this alternative would have the potential to avoid some of the significant visual impacts of the OMPPA Transmission Project on the City of Chula Vista east of I-5, it would create new visual impacts for the City of Chula Vista's Bayfront that may, or may not be significant, depending on design.

Non –Wires - Energy Conservation and Demand Side Management

<u>Description</u>: The Non-Wires - Energy Conservation and Demand Side Management programs are designed to reduce customer energy consumptions. Regulatory requirements dictate that

supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. These programs are designed to either reduce the overall use of energy or to shift the consumption of energy to off-peak times.

Under the direction of the CPUC, SDG&E offers a number of energy conservation programs for customers, including financial incentives for installing specific energy-efficiency appliances or taking other measures to conserve energy. SDG&E also provides programs, such as inline energy profiling and in-home energy audits, to make customers more aware of their energy usage and of ways to conserve, as well as a variety of free brochures on improving energy efficiency.

Under this alternative the need for the Otay Power Plant and the associated transmission would be met through increased conservation and load management activities similar to those noted above.

Rationale for Elimination: This alternative does not meet the stated project objectives.

Non-Wires- Renewable Energy Resources

<u>Description</u>: California's Renewable Portfolio Standard (RPS) requires retail sellers of electricity to increase their procurement of eligible renewable resources by at least 1 percent per year so that 20 percent of their retain sales are procured from eligible renewable energy resources by 2017. The RPS Program was mandated by Senate Bill 1078 (SB 1078, Sher, Chapter 516, Statutes of 2002) under Public Utilities Code sections 381, 383.5, 399.11 through 399.15, and 445. The CPUC, in collaboration with the California Energy Commission (CEC), has initiated rulemaking to implement the State's Program for Investor-owned utilities (IOU) (R.01-10-024). On March 8, 2003, the CEC and the CPUC approved an Energy Action Plan in addition to the Renewable Portfolio Standard. The shared goal of the Energy Action Plan is to:

"Ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers."

The Renewable Resources Development Report (2003) prepared by the California Energy Commission, identifies renewable resources that are available to the SDG&E territory. These resources include wind and solar as the principal resources. Wind resources are more prevalent to the north, in the Altamont Pass, Tehachapi, and San Gorgonio areas of the state. Solar energy facilities are also located principally outside the SDG&E service territory, however, the southern portion of the State has the strongest solar resource potential.

At present, there are over 16,000 wind turbines in the U.S., with most of them located in California. In total, approximately 1,800 MW of electricity is generated from 105 separate wind farms. According to the San Diego Regional Energy Infrastructure Study (2002), San Diego could obtain significant amounts of wind power from the Laguna and Jacumba Mountains, located in eastern San Diego County. Class 5 and 6 winds are not uncommon in this region, and the study suggests that up to 500 MW of potential wind generation capacity could be developed over the next 30 years in the San Diego area. The main obstacle to utilizing wind generation is the lack of existing transmission infrastructure to transport the wind-generated power to the grid. In addition, wind energy technology requires approximately 5 to 6 acres per megawatt of wind power.

Currently there are two types of solar generation available: solar thermal power (also known as concentrating solar power) and photovoltaic (PV) power generation. At present, California generates approximately 345MW of power with solar thermal power plants, with the majority of these facilities being parabolic-trough electric plants installed in the Mojave Desert, due to the large tracks of land required for this technology. Photovoltaic (PV) power systems are available on a significantly smaller scale, and have received increased support from private and public sections since the 1970s. PV systems typically convert about 10 percent of the available solar energy to alternating current electricity, and require approximately one square kilometer (247 acres) for a 100MW rated power system.

Rationale for Elimination: This alternative does not meet the stated project objectives.

3. ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

Impact Assessment Methodology

The analysis of environmental impacts is based upon the environmental setting applicable to each resource/issue and the manner in which the construction, operation and maintenance of the Proposed Project or alternatives would affect the environmental setting and related resource conditions. In accordance with CEQA requirements and guidelines, the impact assessment methodology also considers the following three topics: (1) the regulatory setting, and evaluates whether the Proposed Project or alternatives would be consistent with adopted federal, State and local regulations and guidelines; (2) growth-inducing impacts; and (3) cumulative impacts. Regulatory compliance issues are discussed in each resource/issue area section. The EIR document is organized according to the following major issue area categories:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soil, and Paleontology
- Hydrology and Water Quality
- Land Use and Recreation

- Noise and Vibration
- Public Health and Safety
- Public Services and Utilities
- Socioeconomics
- Transportation and Traffic
- Visual Resources

In order to provide for a comprehensive and systematic evaluation of potential environmental consequences to the resource/issue areas, the environmental impact assessments for the Proposed Project and alternatives are based upon a classification system, with the following four associated definitions:

Class II:	Significant impact – cannot be mitigated to a level that is not significant
Class II:	Significant impact – can be mitigated to a level that is not significant
Class III:	Less than significant, no mitigation required
Class IV:	Beneficial impacts
No Impact:	No impact identified

In a number of instances, SDG&E has proposed measures to reduce impacts to potentially affected resources or areas. These types of actions are termed "Applicant Proposed Measures" (APMs) in the EIR and are considered in the impact assessment as part of SDG&E's Proposed Project description. As such, these measures are different from CEQA mitigation measures, described below.

Mitigation Measures

The EIR describes feasible measures that could minimize significant adverse impacts (CEQA Guidelines Section 15226.4). Within each issue area, mitigation measures are provided where environmental effects could be substantially minimized. The mitigation measures provided in this EIR have been identified in the impact assessment sections of the EIR and are presented in Mitigation Monitoring Program tables at the end of the analysis for each resource/issue area.

The major findings of the EIR analysis are summarized below according to resource issue area. Regulatory issues pertinent to each resource are identified, along with a summary of the primary Class I (significant, unmitigable) and Class II (significant, mitigable) impacts that would be expected from the construction and operation of the Proposed Project. Comparative effects of the alternatives are also provided. Impact findings and mitigation measures for the Proposed Project and alternatives are summarized in *Section 5* in *Tables 5-1 and 5-2*, at the end of this Executive Summary.

3.1 Air Quality

3.1.1 Proposed Project

The Proposed Project would generate localized pollutant emissions from construction equipment over the entire construction duration, approximately 24 months. Emissions would be caused by general construction, structure foundation excavation, structure delivery and setup, wire installation, fugitive dust from travel along the ROW, substation work, clearing, grading, trenching and boring activities. Use of construction equipment and motor vehicles would cause emissions of pollutants that would contribute to existing elevated concentrations of ozone precursors and PM_{10} in the region. Implementation of the proposed APMs would control dust emissions and reduce equipment emissions. These strategies would reduce these air quality impacts to less than significant levels.

Small quantities of vehicular emissions associated with maintenance and repair of the transmission line would be the only long-term source of emissions during the operational phase of the project which were determined to be less than significant.

The Proposed Project could influence emissions from power plants in the region as operation of the Proposed Project would further facilitate transmission of power through San Diego County. However, the Proposed Project would not change the demand for power, and the efficiency of power delivery through the grid would generally be improved when compared to conditions without the Proposed Project, which means no significant changes in emissions from power plants would occur.

3.1.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Air quality impacts resulting from the construction of SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives would not be significantly different from the Proposed Project. Localized short-term construction emissions would occur in the same manner as the Proposed Project as the construction duration and impact area would be similar. Operational air quality impacts would remain unchanged from the Proposed Project.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Construction related impacts to air quality would be greater under this alternative when compared to the Proposed Project due to the additional construction duration and disturbance proposed as part of this alternative. Construction of additional components associated with this alternative would increase the adverse effects of dust emissions and equipment emissions associated with the Proposed Project. However, implementation of APMs would reduce air quality impacts associated with construction of the Transmission System Alternative 7 to less than significant. Operational related impacts to air quality would be similar to the Proposed Project.

No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the No Project Alternative, the full dispatchability of the OMGP would not be realized and therefore, the RMR benefits provided by the Proposed Project would not occur. Under the No Project Alternative, some of the older, less efficient units that have existing RMR contracts with CAL-ISO would not be displaced by the full output of the OMGP. Air quality impacts associated with these older and less efficient power plants are expected to be greater than those associated with the OMGP. Additionally, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. The environmental impacts of new generation can be significant especially with respect to air quality. Air quality impacts associated with the proposed transmission line would be substantially less than those associated with power generation.

3.2 Biological Resources

3.2.1 Proposed Project

The Proposed Project is located entirely within San Diego County. San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federal and State-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species. The project ROW crosses large expanses of upland vegetation

communities interspersed with relatively small amounts of wetland communities. It also crosses substantial amounts of disturbed habitat, and residential and commercial developments. It crosses adjacent to the San Diego National Wildlife Refuge Sweetwater Marsh Unit as well as crosses two major rivers, the San Diego River and the Sweetwater River as well as numerous creeks and intermittent and ephemeral tributaries or drainages. Activities related to the construction, operation, and maintenance of the Proposed Project would cause the following impacts to sensitive vegetation types, and special status plant and animal species:

- **Temporary and/or Permanent Loss of Sensitive Vegetation Communities.** The Proposed Project would result in temporary disturbance of 25.2 acres and permanent loss of 2.4 acres to sensitive vegetation communities. Sensitive vegetation communities that would be impacted include temporary impacts to coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chaparral, southern mixed chaparral, baccharis scrub, non-native grassland, drainage, coastal salt marsh, disturbed coastal salt marsh, mud flats, and open water. Permanent impacts would occur to coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chaparral, southern mixed chaparral, and non-native grassland. Impacts to these sensitive vegetation communities are considered significant. Project APMs along with proposed mitigation would reduce these impacts to less than significant.
- Impacts to Sensitive Plant Species. Temporary impacts to the following sensitive plant species have the potential to occur: San Diego ambrosia, San Diego barrel cactus, willowy monardella, Otay tarplant, snake cholla, Mexican flannelbush, Nuttall's lotus and saltmarsh bird's beak. Mitigation is proposed to reduce the impact to these species to less than significant levels. No permanent impacts are anticipated to any sensitive plant species.
- Impacts to Sensitive Animal Species. Potentially significant impacts to the following sensitive animal species have the potential to occur: raptors, San Diego cactus wren, coastal California gnatcatcher, western burrowing owl, Belding's Savannah sparrow, light-footed clapper rail and wandering skipper. Mitigation is proposed along with the APMs to reduce the potential impact to these species to less than significant levels.
- **Impacts by Invasive Plant Species.** Construction of the Proposed Project could result in the introduction of new invasive plants or the spread of existing invasive species into portions of the project area in which invasive species do not already occur. Unless properly maintained, recently disturbed areas could recolonize with invasive species that out-compete slower growing native species. The seeds of invasive species could be transported to other areas by the tires of trucks used during construction. Mitigation is

proposed along with APMs to reduce impacts by invasive plant species to less than significant.

- **Impacts due to Bird Electrocution and Tower/Line Collisions.** The potential for bird collisions with the Proposed Project's power lines or substation facilities occurs along the entire project ROW, and is greatest in those locations that are near open water and wetlands. However, overall bird electrocutions and collision impacts would be less than significant.
- Indirect Impacts. Potential indirect impacts from project construction requiring mitigation include: decreased water quality (through sedimentation, urban contaminants, or fuel release, for example), construction noise and night lighting. Water quality in riparian areas can be adversely affected by potential surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could potentially contaminate surface water. Indirect impacts associated with project activities will include a temporary increase in noise due to vehicles such as augers, cranes and pick-up trucks. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could lead to a reduction in reproductive success and increased mortality. Night lighting on native habitats can prevent nocturnal wildlife from using an area. Mitigation is proposed along with APMs to reduce indirect impacts due to construction activities to less than significant.

3.2.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Construction and operation of SDG&E's Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment, and Pacific Highway Bridge Attachment design option alternatives would have no impact to biological resources.

The Proposed Project and the South Bay Power Plant to Sweetwater River Overhead Design Alternative have the potential to impact the same sensitive plant and wildlife species. However, project impacts to biological resources resulting from direct impacts to sensitive vegetation communities would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative. Under this alternative, temporary impacts to sensitive vegetation communities would be reduced by approximately three acres and there would be no permanent impacts to sensitive biological resources. This alternative has the potential for an incremental increase in bird collision impact, however, this impact is less than significant.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

The Transmission System Alternative 7 would result in greater impacts, when compared to the Proposed Project, to sensitive vegetation communities and plant species due to the additional construction disturbance required under this alternative. However, impacts to vegetation communities and rare plants would be reduced to less than significant with implementation of APMs and proposed mitigation measures.

No Project Alternative

Under the No Project Alternative, none of the facilities associated with the project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the biological resource impacts associated with the Proposed Project would occur. However, under the No Project Alternative, other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission and generation, but could vary depending on length of transmission line and location pursued.

3.3 Cultural Resources

3.3.1 Proposed Project

Seventeen cultural resources have been recorded within or adjacent to (within 200 feet of) the proposed OMPPA Transmission Project ROW. All of the recorded sites are either pre-historic or historical period archaeological sites and were determined to be ineligible for California Register of Historic Resources (CRHR) or to be non-unique archaeological resources. No Native American sacred sites are known to exist in the project area and none are expected.

Construction activities have the potential to affect undiscovered cultural resources. For the Sycamore Canyon Substation to Fanita Junction segment, and Miguel Substation to South Bay Power Plant Area and Sweetwater River to Sicard Street, the likelihood of encountering undiscovered cultural resources during construction is low due to the relatively low density distribution pattern of previously recorded cultural sites. However, portions of the Sicard Street Transition Station to Old Town Substation Segment are considered to be "culturally sensitive" by the City of San Diego. Therefore, the potential to encounter undiscovered cultural resources

during the trenching and boring activities associated with installation of the underground portion of the transmission line and boring activities along this project segment is considered high. APMs and mitigation measures provided would reduce potentially significant impacts to undiscovered cultural resources to less than significant.

3.3.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Cultural resource impacts resulting from SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design alternatives would not be significantly different from the Proposed Project as ground disturbance for these design alternatives would take place primarily within the same alignment as the Proposed Project where no known cultural resources have been identified.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Cultural resource impacts resulting from the Transmission System Alternative 7 would not be significantly different from the Proposed Project. Although greater ground disturbance would occur under this alternative, the likelihood of encountering undiscovered cultural resources during construction is low due to the relatively low density distribution pattern of previously recorded cultural sites. Therefore, impacts to cultural resources under this alternative are anticipated to be generally the same as the Proposed Project.

No Project Alternative

Under the No Project Alternative, none of the facilities associated with the project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the potential impacts from construction activity to unknown cultural resources would occur. However, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Construction-related impacts would be expected to be similar or greater to those described for the Proposed Project for new transmission and generation but could vary depending on length of transmission line and location pursued.

3.4 Geology, Soils, Paleontology

3.4.1 Proposed Project

Soil liquefaction is considered a potential seismic hazard along the entire underground cable alignment (South Bay Power Plant Area to Sweetwater River Transition Area and Sicard Street Transition Area to Old Town Substation). The proposed underground cable portion of the project between Sicard Street to SDG&E's Old Town Substation also crosses potentially active and active fault traces associated with the Rose Canyon Fault Zone designated as an Alquist-Priolo special studies zone.

Underground facilities are generally not subject to direct effects of shaking because they are confined by overlying soils. However, the integrity of the transmission cable could be compromised by potential differential settlements associated with liquefaction as well as fault rupture.

Landslides, earth flows, and debris flows are also potential impacts that could affect the overhead portions of the Proposed Project. Mitigation has been provided to ensure that potentially significant impacts related to geologic hazards would be mitigated to less than significant.

High to moderate paleontologically sensitive geologic units along the Proposed Project alignment occur between mile-posts 0 and 4, mile-posts 28 to 38 and between mile-posts 45 and 52. Mitigation has been provided to ensure that potentially significant impacts to Paleontological resources would be mitigated to less than significant.

3.4.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Geologic impacts resulting from the construction of SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment Design alternatives would not be significantly different from the Proposed Project as the new facilities proposed for these design alternatives would take place within the same alignment as the Proposed Project. Geologic impacts associated with the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative would decrease from the Proposed Project as this alternative would primarily modify existing structures and would not require mitigation for geologic hazards.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Geologic impacts resulting from the construction of the Transmission System Alternative 7 would not be significantly different from the Proposed Project, as the facilities proposed under this alternative would take place within the same alignment as the Proposed Project, and the majority of the new overhead structures proposed under this alternative would be the same as those proposed under the OMPPA Transmission Project.

No Project Alternative

Under the No Project Alternative, other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. Potential new generation and transmission facilities would require analysis of geologic and seismic impacts, requiring consideration of appropriate soil conditions and foundation requirements, and specific facility design to minimize damage during earthquakes that cause strong groundshaking.

3.5 Hydrology and Water Quality

3.5.1 Proposed Project

Potential impacts would include: impacts from soil erosion and sedimentation from construction activity and access roads, potential degradation of water quality through spill of potentially harmful materials used in construction, and groundwater disturbance through project-related excavation and boring. Mitigation is proposed along with APMs to reduce these impacts to hydrology and water quality to less than significant.

The analysis found a potential significant impact for flood or erosion damage due to placement of proposed underground cable within various stream channels. Mitigation has been provided to reduce these impacts to less than significant.

3.5.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Pacific Highway Bridge Attachment Design Alternative: This alternative would eliminate the need to bore under the San Diego River and therefore, project impacts due to groundwater

disturbance and water quality degradation and encroachment into a floodplain/water course would be reduced under the Pacific Highway Bridge Attachment from potentially significant requiring mitigation, to less than significant.

Harbor Drive Bridge Attachment Design Alternative: This alternative would eliminate the need to bore under the Harbor Drive Bridge and therefore, project impacts due to groundwater disturbance and water quality degradation would be reduced from potentially significant requiring mitigation to less than significant.

Sicard Street Transition Cable Pole Design Alternative: Hydrology and water quality impacts resulting from the construction of SDG&E's Sicard Street Transition Cable Pole would be substantially the same as for the Proposed Project.

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: This alternative would eliminate the need to bore under the Sweetwater Marsh and therefore, project impacts due to groundwater disturbance and water quality degradation and encroachment into a floodplain/water course would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative from potentially significant requiring mitigation, to less than significant.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Impacts to hydrology and water quality under the Transmission System Alternative are anticipated to be greater due to the additional construction activities and larger disturbance area required. However, with implementation of APMs and provided mitigation measures, impacts would be less than significant.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would result in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission and generation, but could vary depending on length of transmission line and location pursued.

3.6 Land Use, Agriculture and Recreation

3.6.1 Proposed Project

The proposed OMPPA Transmission Project is located in the cities of San Diego, Chula Vista, National City and unincorporated areas in the eastern portion of San Diego County as well as MCAS and is adjacent to the U.S. Naval Station San Diego and the Sweetwater Marsh Natural Wildlife Refuge (see *Figure ES-1*). The Proposed Project follows an existing SDG&E ROW from Fanita Junction to the Miguel Substation through rough foothills, mesas, steep valleys and ravines. From the Miguel Substation to the South Bay Power Plant, the Proposed Project continues within the SDG&E ROW through residential and urban areas of the City of Chula Vista, where a wide range of land uses are near or adjacent to the Proposed Project route, including commercial and industrial uses, residential developments and parks. From the South Bay Power Plant to the Sicard Street Transition area, the project continues within the SDG&E ROW near the San Diego Bayfront. Land uses near or adjacent to this segment of the route include commercial, industrial and a wildlife refuge. From the Sicard Street Transition Area to the Old Town Substation, the project is located underground within City of San Diego roadways primarily within commercial and industrial areas.

Development of the Proposed Project would result in both short-term and long-term land use impacts. Short-term impacts which would occur as a result of transmission line construction including direct conflicts with existing land uses and disruption to the community associated with dust, noise/vibration, public health and safety, traffic and visual quality which are discussed in this *Executive Summary* (*Sections 3.1, 3.9, 3.12 and 3.13*, respectively). Long-term impacts would result from precluding or conflicting with existing and/or planned land uses within the transmission line ROW.

The analysis finds that, without mitigation, the Proposed Project would potentially disrupt land uses along the transmission corridor during construction and would potentially conflict with the North Embarcadero Visionary Plan Project. These impacts, however, are fully mitigable. With implementation of all mitigation set forth in *Section D.7*, all impacts to land use and recreation would be less than significant.

3.6.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Land use impacts resulting from the construction and operation of SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, and the Harbor Bridge Attachment Design Alternatives would either remain the same or be reduced from the Proposed Project as these design options would take place primarily within the same alignment as the Proposed Project and have primarily been developed to reduce impacts to land use and other environmental resources.

The South Bay Power Plant Area to Sweetwater River Overhead Design Alternative would conflict with applicable land use plans and policies relevant to the City of Chula Vista Bayfront resulting in a significant and unmitigable impact as opposed to the Proposed OMPPA Transmission Project, which proposes to underground the 230 kV transmission line along the Chula Vista Bayfront which would result in no conflicts or impacts to applicable land use plans and policies.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Long-term disruption of existing land uses and recreational facilities would be reduced under this alternative due to the removal of existing lattice structures between the South Bay Power Plant and Proctor Valley Substation. However, impacts associated with disruption of existing land uses and recreational facilities during construction would be slightly greater under this alternative due to the additional construction activities and disturbance required for removal of existing lattice structures and construction of a new 138 kV line between Proctor Valley and Miguel Substations. Mitigation Measures provided would reduce construction related impacts associated with disruption of land uses to less than significant.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. Land use impacts associated with construction of power generation would be more localized and not spread out over a long linear distance as with transmission line development and therefore would be expected to be greater in the given work area.

3.7 Noise and Vibration

3.7.1 Proposed Project

Construction of the Proposed Project would require short-term use of bulldozers, graders, drill rigs, cranes, compressors, generators, haul trucks, and other equipment. Helicopters may also be needed to transport construction materials, remove and install new towers, and to string the conductors for the overhead line. During the anticipated 24-month construction period, the intermittent construction noise and vibration impacts from the Proposed Project would be potentially significant. Proper noise suppression techniques and coordination of activities with property owners and occupants through proposed mitigation measures would reduce the construction noise and vibration impacts to less than significant levels.

Once operational, noise from the overhead transmission line would occur from corona discharge and minor inspection or maintenance activities. Corona noise would be in compliance with the local noise ordinances and therefore, less than significant. The noise caused by inspection and maintenance along the Proposed Project would not be frequent and therefore less than significant.

3.7.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Noise impacts resulting from the construction and operation of SDG&E's Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and the Sicard Street Transition Cable Pole design alternatives would not be significantly different from the Proposed Project.

Project impacts due to construction noise and vibration would be reduced under the South Bay Power Plant Area to Sweetwater River overhead option due to the elimination of trenching and boring along this segment from potentially significant requiring mitigation, to less than significant, no mitigation is required. However, noise impacts associated with operation would slightly increase due to audible power line noise that would be generated by the overhead option. However, such corona noise, as discussed for the Proposed Project, would be less than significant.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Construction related noise and vibration levels would be greater under this alternative when compared to the Proposed Project due to increased duration and disturbance area. Mitigation measures provided would reduce noise impacts associated with construction and vibration to less than significant. Noise impacts resulting from the operation of the Transmission System Alternative would be substantially the same as the Proposed Project.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. However, the environmental impacts of new generation can be significant with respect to noise. New generation would need to comply with local noise ordinances and the CEC licensing process, which would be likely to reduce noise impacts. However, noise impacts associated with the proposed transmission line would be expected to be less than those associated with power generation depending on the type of generation, configuration and location.

3.8 Public Health and Safety

Two separate issues are addressed under public health and safety: hazardous materials and contamination, and electric and magnetic field (EMF) related issues.

3.8.1 Hazardous Materials and Environmental Contamination

3.8.1.1 Proposed Project

Known contaminated sites are located in the vicinity of the alignment, and undocumented contamination may have occurred in the commercial and light industrial areas and may have spread to excavation areas, new pole locations and trenching locations along the alignment. Although environmental contamination is likely to be encountered, mitigation measures have been developed related to project construction, to supplement the APMs SDG&E has proposed. With mitigation, potential contamination from spills during construction and project operation would be prevented, and contamination encountered during construction would be properly removed and transported to ensure that all impacts due to hazardous material contamination would be less than significant.

3.8.1.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Impacts due to hazardous materials resulting from the construction of SDG&E's Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment Design alternatives would be substantially the same as those identified for the Proposed Project. Project impacts due to potentially encountering existing hazardous materials would be slightly greater under the Pacific Highway Bridge Attachment Design Alternative due to the increased construction disturbance required within city roadways. While this impact would remain as a significant impact, it would be mitigated to less than significant by implementing mitigation measures as provided for the Proposed Project.

Project impacts due to potentially encountering hazardous materials would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative from potentially significant requiring mitigation to less than significant because this alternative would not require trenching and boring along this project segment which has the potential to disturb existing hazardous materials.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

The Transmission System Alternative 7 would be located within the same ROW between the Miguel Substation and South Bay Power Plant as the Proposed Project. The Miguel Substation to South Bay Power plant segment traverses undeveloped open space, residential, recreational, commercial and industrial land uses. Based on the records review, there are 11 sites that are potentially contaminated within this segment. Impacts due to contamination and hazardous materials resulting from construction of the Transmission System Alternative would be greater due to additional construction activities and larger disturbance area but would be less than significant after mitigation.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. However, the environmental impacts of new generation can be significant especially with respect to hazardous materials generation. Depending on the type and location of new generation, hazardous materials associated with the proposed transmission line would likely be substantially less than those associated with power generation.

3.8.2 Electric and Magnetic Field (EMF) Issues

This EIR does not consider magnetic fields in the context of CEQA and determination of environmental impact, first because there is no agreement among scientists that EMF does create a potential health risk, and second because there are no defined or adopted CEQA standards for defining health risks from EMF. However, recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMFs) from power lines, the EIR provides information regarding EMF issues associated with electric utility facilities and the potential effects of the Proposed Project related to public health and safety as disclosure only for the public and decision-makers. Potential health effects from exposure to electric fields from power lines (effect produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) are typically not of concern since electric fields are effectively shielded by materials such as trees, walls, etc., therefore, the majority of the following information related to EMF focuses primarily on exposure to magnetic fields (invisible fields created by moving charges) from power lines.

After several decades of study regarding potential public health risks from exposure to power line EMF, research remains inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude the EMF causes cancer. Most recently the International Agency for Research on Cancer (IARC) and the California Department of Health Services (DHS) both classified EMF as a possible carcinogen. The information included in this EIR quantifies existing EMF exposures within the community. These exposures are widespread and cover a very broad range of field intensities and duration.

Presently there are no applicable regulations related to EMF levels from power lines. Using the four percent benchmark, SDG&E has incorporated low-cost and no-cost measures to reduce magnetic field levels along the proposed route (including burial of underground lines and changing phase configuration), which are described in *Appendix 6, SDG&E EMF Management Plan* to the EIR, for the benefit of the public and decision-makers in reviewing the Proposed Project.

3.9 Public Services & Utilities

3.9.1 Proposed Project

Project construction would have the potential to disrupt utility systems and conflict with planned utilities along the route and restrict access for emergency vehicles or to public facilities. Excavation for installation of transmission towers and overhead lines and trenching for the underground cable could require that utilities in an area be temporarily interrupted while construction occurs in an area. Similarly, unplanned accidental disruptions of utilities could occur during excavation and trenching and conflicts with planned utilities and the underground cable placement could occur. Construction along roads and across highways could also restrict access for emergency vehicles or could block entrances to public facilities such as schools or parks. Impacts associated with utility disruptions are considered significant. APMs as well as mitigation measures provided would reduce impacts associated with utility disruptions to less than significant.

3.9.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Public service and utility impacts resulting from the construction of SDG&E's Sicard Street Transition Cable Pole and Harbor Bridge Attachment design alternatives would be substantially the same as those identified for the Proposed Project.

Project impacts due to utility conflicts and disruptions and public service emergency response disruption would be slightly increased under the Pacific Highway Bridge Attachment due to the increased excavation required with City of San Diego roadways. However, these impacts would remain less than significant after mitigation.

Project impacts due to utility conflicts and disruptions would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative from potentially significant requiring mitigation, to less than significant and therefore, no mitigation is required due to the elimination of excavation and boring proposed by the project within this segment.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Public service and utility impacts resulting from the construction of the Transmission System Alternative 7 would be greater due to additional construction activities and larger disturbance area to those identified for the Proposed Project, but would remain less than significant after mitigation. Project impacts due to public service emergency response disruptions and demands on public utilities would also be greater to those identified for the Proposed Project, but would be less than significant after mitigation.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads resulting in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. General construction and operation activities associated with new generation would likely require the long-term need for water, wastewater and solid disposal needs.

3.10 Population and Housing

3.10.1 Proposed Project

Construction activities associated with the Proposed Project would be considered short-term and temporary. It is assumed that all construction personnel would come from within a two-hour commute area and would not generate a permanent increase to population levels. No construction impacts to existing or future population growth levels would occur as a result of the Proposed Project. Operation of the Proposed Project would not require any additional workers for operations or maintenance. As such, no new regional growth is expected as a direct or indirect result of the project.

Because construction workers are not expected to permanently relocate in the area as a result of construction activities associated with the Proposed Project, no new housing would be needed for the project, and no new competition for existing housing would likely occur. All project facilities would occur within the existing SDG&E ROW or within city roadways and would not require the removal or relocation of any residential units or business uses. Therefore, the Proposed Project would not result in any displacement impacts.

3.10.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Population and housing impacts resulting from the construction of SDG&E's design option alternatives would not be significantly different from the Proposed Project. The need for localized short-term construction workers would occur in the same manner as the Proposed Project. Population and housing impacts would remain unchanged from the Proposed Project.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Impacts associated with population and housing under the Transmission System Alternative 7 would be substantially the same as those identified for the Proposed Project which were determined to be less than significant.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads resulting in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. Depending on the type of generation pursued, new generation would likely require additional temporary construction workers and long-term operators. However, it is expected that given the labor force in the local region, any such impacts would be less than significant.

3.11 Transportation and Traffic

3.11.1 Proposed Project

Overhead line construction activities would have minimal impacts to area traffic or roadways because the route is in an existing SDG&E ROW. Construction would require temporary lane and road closures while stringing conductors across the roadways. Much of the underground segment would be constructed in roadways and therefore construction-related impacts on traffic and transportation would be more severe than for the overhead portions. The Proposed Project would also result in short-term and permanent elimination of parking spaces, short-term disruption to public transit operations and conflicts with planned roadway improvement projects

including the NEVP improvements to Pacific Highway. Mitigation has been provided to reduce these potentially significant impacts to less than significant.

3.11.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Project impacts associated with road and lane closures, construction-generated traffic, physical impacts to roadways and sidewalks, interference with pedestrian and bicycle circulation, and emergency response would increase due to the increased construction disturbance in city streets under the Pacific Highway Bridge Attachment Design Alternative but would be mitigable to less than significant. The Pacific Highway Bridge Attachment Alternative would eliminate temporary parking loss of approximately ten parking places that would occur under the Proposed Project in order to facilitate proposed boring under the San Diego River.

The Sicard Street Transition Cable Pole Design Alternative would reduce the loss of permanent parking associated with the proposed Transition Station from eight parking places to three places.

Traffic and transportation impacts associated with the Harbor Bridge Attachment Design Alternative would be slightly reduced from those identified for the Proposed Project due to the reduced construction disturbance.

Given that the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative primarily consists of minor modifications to existing structures within SDG&E's existing utility ROW, project-related road and lane closures required to string the new 230 kV line and construction traffic and resultant impacts would be slightly reduced under this design option and would remain less than significant. The reduction in traffic and transportation impacts would occur by eliminating project-related trenching along this project segment.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Construction-related traffic impacts under the Transmission System Alternative would be greater than the Proposed Project due to the additional construction disturbance and duration required, but would be mitigable to less than significant. Long-term impacts associated with loss of parking spaces would be reduced under this alternative due to removal of existing lattice towers within existing parking lots. Conflicts with planned roadway improvements would be the same as the Proposed Project.

No Project Alternative

Under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads resulting in construction and operational impacts. These impacts would be expected to be similar to those described for the Proposed Project for new transmission, but could vary depending on length of transmission line and location pursued. Traffic and transportation impacts associated with construction of power generation would be more localized and not spread out over a long linear distance as with transmission lien development and therefore would be expected to be greater in the given work area. In addition, power generation would also contribute minor permanent traffic impacts associated with operation due to employee commute traffic and delivery and removal of materials.

3.12 Visual Resources

3.12.1 Proposed Project

The new 230 kV electric transmission line evaluated in this EIR includes approximately 18 miles of new overhead 230 kV electric transmission line to be located within existing SDG&E ROW and ten miles of new 230 kV cable to be located underground primarily within SDG&E ROW and City of San Diego roadways. Of the 18 miles of overhead transmission line, approximately ten miles (Miguel Substation to South Bay Power Plant) would be located through visually sensitive areas of San Diego County and the City of Chula Vista that are used extensively for residential, park, recreation, open space, travel, and other public community purposes. Visual impacts to these types of land uses from overhead transmission facilities represent long-term changes to the aesthetic environment. Installation of SDG&E's Proposed Project within this project segment would primarily result in the long-term visibility of additional transmission structures and 230 kV circuits, which would increase the utility character of the existing setting along SDG&E's established utility ROW. Of the 24 key viewpoints that were evaluated between the Miguel Substation and South Bay Power Plant for the Proposed Project, 21 located in residential and park areas would be exposed to significant unmitigable visual changes.

Potentially significant visual changes are identified at four other key observation points. In these areas, APMs and mitigation measures are provided that would reduce impacts to less than significant levels. The Proposed Project would also cause short-term visual impacts associated with the visibility of project construction equipment, materials, and personnel as well as construction staging areas. In order to ensure that viewers are not necessarily impacted during

construction, mitigation is provided to ensure that visual impacts due to construction are less than significant.

3.12.2 Alternatives

<u>SDG&E Design Option Alternatives</u> (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

The visual impacts of the Pacific Bridge Attachment Design Alternative, Sicard Street Transition Pole Alternative, and Harbor Drive Bridge Attachment would be the same as, or very similar to, the Proposed Project. The Pacific Highway Bridge Attachment would have slightly greater short-term construction-related visual impacts due to the increased length of the alternative. The Sicard Street Transition Pole would have slightly less long-term visual impacts than the transition station. All visual impacts would be minor and less than significant, similar to the Proposed Project in these localized areas.

The South Bay Power Plant to Sweetwater River Overhead Deign Alternative would have greater, long-term visual consequences, compared to the Proposed Project that would underground the 230 kV circuit along the Chula Vista Bayfront and have no long-term visual impact.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

The long-term visual impacts of the Alternative Transmission System 7 would primarily be the result of the following two major actions of this alternative: (1) installing the new 230 kV monopoles and 230 kV/138 kV conductors; and (2) dismantling and removing the existing 138 kV lattice structures and one of the 138 kV conductors. The Transmission System Alternative 7 would essentially result in the installation of the Proposed Project monopoles and 230 kV conductor, as previously described for the Proposed Project. Under the Transmission System Alternative 7, one of the existing 138 kV conductors (currently on the lattice structures) would be relocated to the new monopoles.

This alternative would result in additional beneficial visual changes to representative viewer groups and viewing conditions between the Miguel Substation and South Bay Power Plant by removing the existing 138 kV lattice structures and one of the 138 kV circuits between the Miguel Substation and South Bay Power Plant Area. Overall, the long-term visual impacts to all the KOPs, as well as to the other areas within view of the existing SDG&E ROW would be reduced to less than significant impacts. The proposed monopoles and 230 kV/138 kV

conductors would still result in contrasts ranging from moderate to strong, depending on the viewer location and conditions. The degree of overall change, however, when compared to the existing visual conditions associated with the ROW and existing lattice towers and conductors, would range from beneficial to slightly adverse. The visual effects of this alternative would be substantially reduced by the removal of the lattice towers that are more industrial in character, and dissimilar from typical urban design elements, as well as the proposed 230 kV monopoles.

No Project Alternative

Under the No Project Alternative, the Proposed Project would not occur and no changes in visual quality or views would result. This alternative assumes, however, that SDG&E would need to make other improvements elsewhere in their system to compensate for the system benefits that would not be realized under the No Action scenario. Visual impacts would result to other views and aesthetic resources from system upgrades and installation of new facilities elsewhere could result in increased visual impacts, depending on the location and visual sensitivity of the area.

4. SUMMARY COMPARISON OF THE PROPOSED PROJECT AND ALTERNATIVES

4.1 Methodology

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (*e.g.*, visual impacts and permanent loss of habitat or land use conflicts). Impacts associated with construction (*i.e.*, temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6[d]), Evaluation of Alternatives. If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Although this comparison focuses on the most important issue areas (e.g., land use, visual resources and biological resources), determining an environmentally superior alternative is difficult because of the many factors that must be balanced. While the EIR identifies an environmentally superior alternative, it is possible that the ultimate decision-makers could balance the importance of each impact area differently and reach a different conclusion.

4.2 Evaluation of Project Alternatives

Five alternatives in addition to the No Project Alternative were identified for evaluation in this EIR. *Table 4-1* provides a summary of significant unmitigable (Class I) impacts for the Proposed Project and alternatives. *Table 4-2* provides a summary of environmental impact conclusions for the Proposed Project and each of the alternatives for each environmental issue area.

TABLE 4-1 Proposed Project vs. Alternatives: Summary of Significant Unmitigable (Class I) Impacts

Issue Area	Significant Impacts (Class I)				
Proposed Project					
Visual Resources	V-2 (long-term visual impacts)				
	KOP 1 – Residential - Mount Miguel Road				
	KOP 2 – Residential - Coltridge Lane				
	KOP 3 – Bonita Long Canyon Park				
	KOP 4 – Residential – Pepperwood Court				
	KOP 5 – Residential – Via Hacienda				
	KOP 7 – Bonita Vista Middle School				
	KOP 8 – Discovery Park				
	KOP 9 – Residential – Chestnut Court				
	KOP 10 – Sunridge Park				
	KOP 11 - Residential – Blackwood Road				
	KOP 13 – Sunbow Park				
	KOP 14 – Residential Area, Crescent Drive				
	KOP 15 – Greg Rogers Par				
	KOP 16 – Residential - Raven Avenue				
	KOP 18 – Residential – Spruce Street				
	KOP 19 – Reinstra Ball Fields				
	KOP 20 – SDG&E Park				
	KOP 21 – Residential - Jicama Way				
	KOP 22 – Residential – 5-10 Mobile Home Ranch				
	KOP 24 – Residential – Lynwood South				
	KOP 25 – Residential – Trenton Street				
Alternatives – Class I Impacts Eliminated or Created by Alternative					
Transmission System 7 – Miguel to South Bay	Eliminates all Class I impacts to visual resources				
South Bay Power Plant to Sweetwater River Overhead	Creates Class I impact to land use. Specifically Impact L-1 conflict with applicable land use plan, policy or regulation.				

TABLE 4-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant
Air Quality	Impacts A-1 through A-5 determined to be Class III.	Impacts similar to Proposed Project, but would have a slightly longer construction time and impact area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would have a longer construction duration.
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	
Biological Resources	Between Sycamore Canyon and Fanita Junction and Miguel Substation to Sweetwater River transition area, Impacts B-1 through B-8 were determined to be between Class II and Class III.	No impacts would occur.	No impacts would occur.	No impacts would occur.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance within and adjacent to the Sweetwater Marsh.	Impacts B-1, B-2 would be greater due to additional construction activities and larger disturbance area, but would remain between Class II and Class III impacts.
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	No Preference	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	
Cultural Resources	Impacts C-1 and C-3 were determined to be Class III and Impact C-2 was determined to be Class II.	Impacts similar to Proposed Project, but likelihood of encountering unknown resources would be slightly greater due to increased impact area of trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance and no trenching in bridge area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance area.	Impacts would be reduced due to reduced construct-ion disturbance from attaching to existing overhead bridge structures.	Impacts similar to Proposed Project, but likelihood of encountering unknown resources would be slightly greater due to increased impact area.
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	No Preference	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	

TABLE 4-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant
Geology, Soils and Paleontology	Impacts G-1 through G-7 were determined to be Class II and Class III.	Geologic impacts are nearly identical to those associated with the Proposed Project.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance and no trenching in bridge area.	The geologic impacts are identical to those associated with the Proposed Project.	Impacts would be reduced due to reduced construct-ion disturbance from attaching to existing overhead bridge structures.	Geologic impacts are nearly identical to those associated with the Proposed Project but would be slightly greater due to larger disturbance area.
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	Preferred design option at Harbor Bridge	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	
Hydrology and Water Quality	Impacts H-1, H-2, H-6 and H-7 determined to be Class III and Impacts H-3, H-4, and H-5 were determined to be Class II and Class III.	Would eliminate directional drill under San Diego River and therefore reduce H-3 and H-5 impacts from Class II to Class III.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Would reduce construction disturbance area as well as eliminate directional drill under the Sweetwater Marsh and therefore would reduce hydrology and water impacts from Class II to Class III.	Impacts H-1 through H-7 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Preferred design option to crossing San Diego River	Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred (from South Bay Power Plant to Sweetwater River Transition Area)	
Land Use, Agriculture and Recreation	Impacts L-1, L-2, L-6, and L-7 were determined to be Class III and Impacts L-3, L-4, L-5 and L- 8 were determined to be Class II.	Impacts similar to Proposed Project, but would have a slightly longer construction time and impact area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance area.	Would conflict with applicable land use plans and policies relevant to the City of Chula Vista Bayfront resulting in a Class I impact to Impact L-1.	Impacts associated with disruption of existing land use (Impact L-3) and recreational facilities (Impact L-5) would be slightly greater during construction due to additional activities and disturbance areas. However, long-term disruption would be reduced due to removal of existing lattice towers between the Proctor

TABLE 4-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant
	Preferred from Sycamore Canyon to Fanita Junction and from South Bay Power Plant to Old Town Substation		Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to underground circuit transition.		Valley Substation and South Bay Substation. Preferred from Miguel Substation to South Bay Power Plant.
Noise and Vibration	Impacts N-3 and N-4 were determined to be Class III and Impacts N-1 and N-2 were determined to be Class II or Class III. Preferred	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option at Harbor Bridge	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option for Sicard Street overhead to underground circuit transition	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Long-term noise impacts would be slightly greater due to corona noise from overhead components. However, long-term noise impacts were determined to be Class III.	Impacts similar to Proposed Project during operation and slightly greater during construction due to increased duration and disturbance area.
Public Health and Safety	Impacts PS-1 through PS-4 were determined to be Class II or Class III. Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option at Harbor Bridge.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option for Sicard Street overhead to underground circuit transition.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Impacts PS-1 through PS- 4 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.
Public Services and Utilities	Impacts U-1 through U-3 were determined to be Class II or Class III. Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option at Harbor Bridge	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option for Sicard Street overhead to underground circuit transition.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Impacts U-1 through U-3 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.

TABLE 4-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant
Population and Housing	Impacts S-1 and S-3 were determined to have no impact and Impact S-2 was determined to be Class III.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.
	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference
Transportation/ Traffic	Impacts T-1 through T-9 were determined to be Class II or Class III. Preferred From Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option and Harbor Bridge.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred design option for Sicard Street overhead to underground circuit transition.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Impacts similar to Proposed Project but would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.
Visual Resources	See <i>Table 4-1</i> for Class I impacts to Impact V-2. Impacts V-1, V-4 and V-4 were determined to be Class II or Class III.	Impacts would primarily be the same as Proposed Project.	Impacts would primarily be the same as Proposed Project.	Impacts would be slightly reduced due to the transition cable pole being less massive in size than the proposed transition station.	Impacts would be greater. The new and modified structures would increase the industrial character between the South Bay Power Plant and Sweetwater Marsh from Class III to Class II impacts.	The visual effects of the alternative would be substantially less than the Proposed Project. The degree of overall change between the Miguel Substation and South Bay Power Plant when compared to the Proposed Project would range from beneficial (Class IV) to slightly adverse (Class III).
	Preferred from Sycamore Canyon to Fanita Junction and from South Bay Power Plant to Old Town Substation.	No Preference	No Preference	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Preferred from Miguel Substation to South Bay Power Plant.

With the exception of visual impacts caused by the Proposed Project, there were no significant and unmitigable (Class I) impacts identified that could occur with the Proposed Project. As listed in *Table 4-1*, significant and unmitigable (Class I) impacts were identified at various KOPs between the Miguel Substation and South Bay Power Plant that would occur due to the Proposed Project. With the exception of the land use planning and policies conflicts due to the South Bay Power Plant Area to Sweetwater Overhead Design Alternative, there were no significant and unmitigable (Class I) impacts identified that could occur with the alternatives. The South Bay Power Plant Area to Sweetwater Overhead Design Alternative is inconsistent with the recent Memorandum of Understanding (MOU) between SDG&E and the City of Chula Vista to underground existing facilities along the Chula Vista Bayfront and therefore would conflict with applicable land use plans is considered to be significant and can only be mitigated to less than significant by undergrounding as proposed by the OMPPA Transmission Project.

4.3 Environmentally Superior Alternative

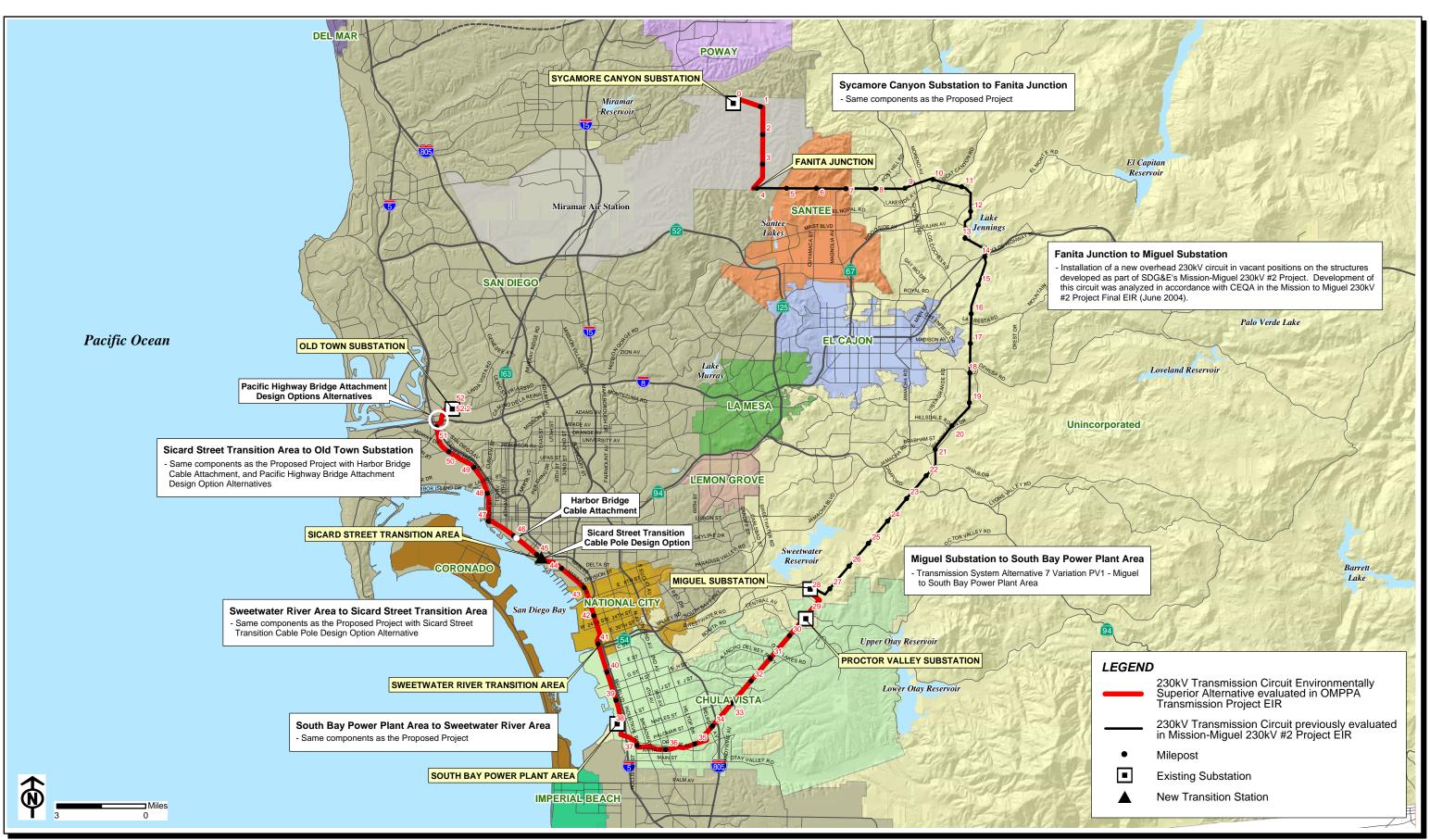
The Environmentally Superior Alternative is shown in *Figure ES-5* and consists of the Proposed Project in combination with the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole design option alternatives along with the Transmission System 7 PV1 Variation from Miguel to the South Bay Power Plant. The following identifies the design option alternatives and transmission system alternative that in combination with the Proposed Project make up the Environmentally Superior Alternative.

4.3.1 SDG&E Design Option Alternatives

Pacific Highway Bridge Attachment

The Pacific Highway Bridge Attachment design option alternative is the same as the OMPPA Transmission Project, except in the vicinity of where the Miguel – Old Town 230 kV underground line crosses the San Diego River. Under this alternative, the 230 kV line cable would be attached to the Pacific Highway Bridge rather than directional drilled under the San Diego River as proposed by the OMPPA Transmission Project.

The EIR analysis indicates that identified long-term significant impacts to environmental resources (Impact H-5, encroachment into a floodplain) resulting from the proposed construction and operation of the proposed 230 kV cable underneath the San Diego River can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be avoided if the project were implemented by attaching the proposed 230 kV cable on the Pacific Highway Bridge. While the Pacific Highway Bridge Attachment Alternative would require additional trenching in City of San Diego roadways within



BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project EIR Environmentally Superior Alternative



commercial and industrial areas, resulting impacts associated with construction would be shortterm and easily mitigable to less than significant. Therefore, from a strictly environmental perspective, the Pacific Highway Bridge Design Alternative would rank as the environmentally superior design option to crossing the San Diego River as it would eliminate identified long-term hydrology related impacts while not resulting in more overall impacts than the Proposed Project.

Harbor Drive Bridge Attachment

The Harbor Drive Bridge Attachment design option is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. With the exception of the crossing of the Harbor Drive Bridge, this alternative is the same as the proposed OMPPA Transmission Project. The EIR analysis indicates that identified significant impacts to the 10th Avenue Marine Terminal, a busy entry port for cargo, due to disruption caused by the proposed construction/ boring of the proposed 230 kV cable under the Harbor Drive Bridge, can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be reduced if the project were implemented by attaching the proposed 230 kV cable on the Harbor Drive Bridge, while not resulting in more overall impacts than the Proposed Project. Therefore, from a strictly environmental perspective, the Harbor Drive Bridge Attachment Design Alternative would rank as the environmentally superior design option to boring underneath the Harbor Drive Bridge.

Sicard Street Transition Cable Pole

The Sicard Street Transition Cable Pole design option is an alternative to development of the Sicard Street Transition Station as proposed by the OMPPA Transmission Project. Aside from the design of the transition structures, this alternative would not alter any other aspects of SDG&E's proposed OMPPA Transmission Project.

The EIR analysis indicates that the identified impacts to parking and visual resources resulting from the proposed Sicard Street Transition station would be less than significant. The EIR also indicates that project-related impacts, although less than significant, would be reduced if the transition cable pole design alternative were implemented. Compared to the proposed transition structure design, the cable pole design is less industrial in scale and mass, and would take less space in the parking lot, thereby minimizing both visual impacts and land use impacts resulting from physical ground disturbances. Therefore, from a strictly environmental perspective, the Sicard Street Transition Cable Pole design alternative would rank as the environmentally superior design option to transition the proposed 230 kV line from overhead to underground at Sicard Street.

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Under this transmission system alternative, the OMPPA Transmission Project would be developed as proposed with the exception that between the Miguel Substation and the South Bay Power Plant Area, the Transmission System Alternative would be implemented as an alternative to Segment 2 (Miguel Substation to South Bay Power Plant Area) of the Proposed Project. Under this alternative, the 63 new double line transmission steel poles between Miguel and South Bay Power Plant Area as proposed in the OMPPA Transmission Project would be developed, but the transmission system would be reconfigured to allow the removal of the existing lattice towers between Proctor Valley and the South Bay Power Plant Area. Removal of the existing lattice towers would be made possible by this transmission system alternative, which would include removing one of the existing 138 kV transmission lines currently on the existing lattice towers on the second position of the new double line transmission poles that constitute the Miguel to South Bay portion of the proposed OMPPA Transmission Project. Modifications to the Proctor Valley, Miguel and Los Coches substations, as well as addition of a second 138 kV transmission line from the Miguel Substation to the Proctor Valley Substation, would be required.

The EIR analysis indicates that from the Miguel Substation to I-5, the Proposed Project would have long-term significant and unavoidable (Class I) visual impacts to views from a number of local residential neighborhoods, park and recreation areas, and public facilities. Long-term significant and unavoidable (Class I) visual impacts would result from the proposed OMPPA Transmission Project since the 230 kV line would be installed on single steel poles that would be viewed in conjunction with the existing 138 kV lattice towers. Taken together, the existing and proposed transmission structures would create a visually dominant industrial corridor through residential areas of Chula Vista. The differences in form and design between the existing lattice towers and proposed single steel pole structures would contribute to the visual disharmony and industrial character of the SDG&E ROW. The significant visual impacts from the OMPPA Transmission Project would occur primarily within a foreground viewing distance (within 0.5 mile) where the new structures and lines would be clearly visible in conjunction with the existing lattice structures.

Under the Transmission System Alternative, the significant visual impacts of the Proposed Project would be reduced to a level less than significant from the Proctor Valley Substation to west of I-5, near proposed structure number 510. Under this scenario, the existing lattice tower structures and conductors would be removed from the Proctor Valley Substation to the South Bay Substation area, and replaced with the double-line 230 kV steel poles that would support one of the existing 138 kV lines and the proposed OMPPA 230 kV line. Long-term visual changes would be slightly adverse to beneficial along almost the entire length of SDG&E's ROW in the

City of Chula Vista, east of I-5. The visual changes of the alternative would be evident from residential neighborhoods, local community parks and recreation areas, and public schools and institutions. This would result in the SDG&E ROW appearing substantially less industrial in character and form, and more similar in urban design to other community facilities, such as distribution poles and lighting facilities. Due to the beneficial visual effects of removing the existing 138 kV lattice towers, the visual impacts of the new 230 kV double line steel poles and conductors would be less than significant when compared to the existing setting. While implementation of this alternative would reduce long-term visual impacts from Class I significant and unavoidable to less than significant, from the Proctor Valley Substation to the South Bay Power Plant, the removal of the existing lattice towers and placement of the existing 138 kV line would cause increased short-term impacts to biological resources, soil erosion, noise, solid waste disposal, traffic disruption and short-term disruption to recreational facilities due to more intense construction. While the EIR analysis indicates that short-term construction impacts generated by this alternative are significant, they can be mitigated to less than Therefore, from a strictly environmental perspective, the Transmission System significant. Alternative ranks as the environmentally superior transmission system alternative between the Miguel Substation and South Bay Power Plant as it would reduce long-term visual impacts from significant and unavoidable (Class I) to less than significant, while only increasing temporary short-term impacts associated with construction that are easily mitigable to less than significant.

4.4 The Environmentally Superior Alternative vs. The No Project Alternative

The Environmentally Superior Alternative would be located within the SDG&E ROW and underground within city streets with minimal long-term impacts on residences or other sensitive land uses. In comparison, long-term impacts to many environmental issue areas could occur under the No Project Alternative. Development of new power plants and/or new transmission facilities within new transmission corridors under the No Project Alternative would likely result in some level of long-term regional impacts to air quality, biological resources, water quality, noise, public health, land use, and visual resources. Overall, the Environmentally Superior Alternative is preferred over the No Project Alternative.

5. IMPACT SUMMARY TABLES

Tables 5-1 and 5-2 summarize all identified impacts of the Proposed Project and alternatives. For each impact, the following information is presented: impact number and title, impact class (Class I, II, III, or IV), applicable mitigation measure, and residual impact (whether significant or less than significant).

TABLE 5-1 SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT					
Impact	Impact Class	Mitigation Measures	Residual Impact		
Air Quality	•		•		
A-1: Violation of Air Quality Standard or Substantial Contribution to an Existing or Projected Air Quality Violation	Class III	None	Less Than Significant		
A-2: Expose Sensitive Receptors to Substantial Pollutant Concentrations	Class III	None	Less Than Significant		
A-3: Create Objectionable Odors	Class III	None	Less Than Significant		
A-4: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan	No Impact	None	None		
A-5: Transmission Line Operation Would Cause Emissions from Power Plants	Class III	None	Less Than Significant		
Biological Resources					
B-1: Temporary and Permanent Loss of Sensitive Vegetation Communities	Class II	B-1a: Restore temporarily disturbed areas or deduct from the SDG&E Mitigation Credits.	Less Than Significant		
B-2: Impacts to Sensitive Plant Species	Class II	B-2a: Conduct focused surveys for San Diego barrel cactus, willowy monardella, San Diego ambrosia, Otay tarplant, snake cholla, Mexican flannelbush, Nuttall's lotus, and saltmarsh bird's beak. Avoid sensitive plants to the maximum extent possible, or provide restoration/compensation. Provide qualified biologist to monitor during construction.	Less Than Significant		
B-3: Impacts to Sensitive Animal Species	Class II	 B-3a: Provide qualified biologist to monitor project during construction. Consult with USFWS and CDFG prior to impacting a narrow endemic species. B-3b: Protect California gnatcatcher and its habitat B-3c: Protect San Diego cactus wren and its habitat B-3d: Remove existing raptor nests during the non-breeding season. Provide a qualified biologist to monitor any active nests. B-3e: Protect western burrowing owl and its habitat B-3f: Protect Belding's savannah sparrow B-3g: Protect light-footed clapper rail and its habitat B-3h: Protect wandering skipper and its habitat 	Less Than Significant		
B-4: Wildlife Corridors	Class III	None	Less Than Significant		
B-5: Impacts by Invasive Plant Species	Class II	B-5a: Prevent invasion of invasive, non-native plant species into sensitive plant species habitats and vegetation types.	Less Than Significant		

SUMMARY OF IMPACTS		BLE 5-1 ATION FOR THE PROPOSED PROJECT	
Impact	Impact Class	Mitigation Measures	Residual Impact
B-6: Impacts Due to Bird Electrocution and Tower/Line Collisions	Class III	None	Less Than Significant
B-7: Indirect Impacts Resulting from fugitive dust, human activity, decreased water quality, construction noise, and night lighting	Class II	B-7a: Reduce night lighting on sensitive habitats.	Less Than Significant
B-8: Impacts to Regional Plans, NCCPs, HCPs, Conservation Plans and Critical Habitat	Class III	None	
Cultural Resources			
C-1: Construction Could Affect Known Cultural Resources	Class III	None	Less Than Significant
C-2: Construction Could Affect Undiscovered Cultural Resources	Class II	C-2a: Prepare Cultural Resources Treatment Plan. C-2b Conduct construction monitoring.	Less Than Significant
C-3: Future Maintenance Operations Could Affect Cultural Resources	Class III	None	Less Than Significant
Geology, Soils and Paleontology		·	
G-1: Ground acceleration/ground shaking, which could damage components	Class II	G-1a Reduce effects of ground shaking.	Less Than Significant
G-2: Ground rupture, which could displace surface deposits along faults	Class II	G-2a Minimize project structures within active fault zone	Less Than Significant
G-3: Seismically Induced Ground Failures Including Liquefaction, Lateral Spreading, and Seismic Slope Instability	Class II	G-3a: Perform geotechnical investigations for liquefaction and slope instability.	Less Than Significant
G-4: Slope Instability Including Landslides, Earth Flows, and Debris Flows	Class II	G-4a: Perform geotechnical surveys for landslides	Less Than Significant
G-5: Soils Which Could Damage Foundations or Have High Erosion Potential	Class II	 G-5a: Evaluate geologic stability of soils and make recommendations for the best foundation type for structures. G-5b: Perform corrosivity testing for each support structure and substation 	Less Than Significant
G-6: Mineral Resources	Class III	None	Less Than Significant
G-7: Construction Activities May Destroy Paleontologic Resources	Class II	G-7a: Provide a paleontologist or paleontological to monitor for fossils during excavation activities.	Less Than Significant
Hydrology And Water Quality			
H-1: Soil Erosion Water Quality Degradation and Sedimentation from Construction Activity and Access Roads	Class III	None	Less Than Significant
H-2: Degradation of Water Quality Through Spill of Potentially Harmful Materials Used in Construction	Class III	None	Less Than Significant

TABLE 5-1 SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT							
Impact	Impact Class	Mitigation Measures	Residual Impact				
H-3: Groundwater Disturbance and Water Quality Degradation Through Project-Related Excavation	Class II	 See Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3 H-3a: Provide compliance with federal and state regulations for groundwater discharge into surface water bodies. H-3b: Require contractors to submit procedures for containment in the event of inadvertent release of drilling fluids. 	Less Than Significant				
H-4: Increased Runoff from New Impervious Areas and Alteration of Existing Drainage Patterns	Class II	H-4a: Access roads and drainage systems shall be designed to account for anticipated surface runoff and channel flow.	Less Than Significant				
H-5: Encroachment into a Floodplain or Watercourse by Permanent Project Features	Class II	H-5a Conduct scour analysis for all floodplain or watercourses crossed by the underground cable.	None				
H-6: Construction in a Potential Dam Inundation Area	Class III	None	Less Than Significant				
H-7: Operation and Maintenance Impacts to Surface Water and Groundwater Quality	Class III	None	None				
Land Use, Agriculture and Recreation							
L-1: Conflict with an Applicable Land Use Plan, Policy, or Regulation	Class III	None	Less Than Significant				
L-2: Physically Divide an Established Community	Class III	None	Less Than Significant				
L-3: Disrupt an Established Land Use	Class II	 L-3a: Provide construction notification and minimize construction disturbance. L-3b Provide public liaison person and information hotline L-3c Provide continuous access to properties. L-3d Coordinate with businesses. See Mitigation Measures T-1a (Prepare Transportation Management Plan), T-1b (Restrict Lane Closures), T-7a (Loss of Parking), and T-9 (Restricted Circulation Access). 	Less Than Significant				
L-4: Displace an Established Land Use	Class II	L-4a: Limit project variances to minor project changes.	Less Than Significant				
L-5: Substantially Deteriorate a Recreational Facility or Disrupt Recreational Activities	Class II	L-5a: Avoid peak recreational usage. L-5b: Notify users of recreational resources	Less Than Significant				
L-6: Convert Farmland to Non-Agricultural Use	Class III	None	Less Than Significant				
L-7: Conflict with an Existing Agricultural Use or a Williamson Act Contract	Class III	None	Less Than Significant				
L-8: Conflict with Planned Future Development	Class II	See Mitigation Measures T-8a and T-8b	Less Than Significant				

TABLE 5-1 SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT							
Impact	Impact Class	Mitigation Measures	Residual Impact				
Noise and Vibration		•					
N-1: Construction Activities Would Temporarily Increase Local Noise Levels	Class II	N-1a: Comply with applicable noise ordinance.N-1b: Provide advance notice of construction.N-1c: Provide liaison for construction nuisance complaints.	Less Than Significant				
N-2: Vibration Could Cause a Temporary Nuisance During Construction	Class II	See Mitigation Measures N-1a, b, and c.	Less Than Significant				
N-3: Corona Noise from Operation of the Overhead Transmission Line	Class III	None	Less Than Significant				
N-4: Noise from Inspection and Maintenance Activities	Class III	None	Less Than Significant				
Public Health & Safety							
PS-1: Radio and Television Interference	Class II	PS-1a: Limit conductor surface potential. PS-1b Document complaints of broadcast interference.	Less Than Significant				
PS-2: Induced Currents and Shock Hazards in Joint Use Corridors	Class II	PS-2a: Identify objects that have the potential for induced voltages and determine proper grounding procedures	Less Than Significant				
PS-3: Effects on Cardiac Pacemakers	Class III	None	Less Than Significant				
PS-4: Wind, Earthquake, and Fire Hazards	Class III	None	Less Than Significant				
Public Services and Utilities							
U-1: Utility System Disruption	Class II	 U-1a: Notification of Utility Service Interruption U-1b: Coordinate with affected jurisdiction to avoid conflicts with planned and proposed utility projects and any relocation of existing utilities. U-1c Provide protection for underground utilities. U-1d Protect utilities against corrosion. 	Less Than Significant				
U-2: Public Service System Disruptions	Class II	T-6a Ensure emergency response access.	Less Than Significant				
U-3: Project-Required Utility and Public Service Demands	Class III	None	Less Than Significant				
Paleontological Resources							
S-1: Project Related Population Growth	No Impact	None	None				
S-2: Induced Demand for Housing	Class III	None	Less Than Significant				
S-3: Displacement of People or Existing Housing	No Impact	None	None				
Transportation and Traffic							
T-1: Road and Lane Closures, Emergency Response	Class II	T-1a: Prepare transportation management plan. T-1b Restrict lane closures	Less Than Significant				
T-2: Construction-Generated Traffic	Class III	None	Less Than Significant				
T-3: Physical Impacts to Roads and Sidewalks	Class II	T-3a: Repair damaged roadways.	Less Than Significant				
T-4: Impacts to Transit and Rail Operations	Class II	T-4a: Coordinate with MTDB in preparing the Transportation Management Plans (TMPs).	Less Than Significant				

TABLE 5-1 SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT							
Impact	Impact Class	Mitigation Measures	Residual Impact				
T-5: Interfere with Pedestrian/Bicycle Circulation and Safety	Class II	T-5a: Provide pedestrian and bicycle circulation and safety	Less Than Significant				
T-6: Construction would Interfere with Emergency Response	Class II	T-6a: Ensure emergency response access.	Less Than Significant				
T-7: Construction Would Cause a Loss of Parking	Class II	T-7a: Coordinate with the lessee and/or owner of affected parking lots.T-7b Post signage to notify residences and businesses of trenching activities.	Less Than Significant				
T-8: Conflict with Planned Roadway Improvement Projects	Class II	T-8a: Coordinate with affected jurisdiction to avoid conflicts with planned roadway improvement projects.	Less Than Significant				
T-9: Restricted Access to Properties	Class II	 T-9a: Notify affected parties of potential obstructions and make provisions for alternative access. T-9b Ensure that at least one access driveway is left unblocked during all business hours or hours of use. 	Less Than Significant				
Visual							
V-1: Short-term Visibility of Construction Activities and Equipment	Class II	V-1a Reduce visibility of construction activities and equipment.	Less Than Significant				
V-2: Long-term Visual Impacts – Visual/Aesthetic Impacts from New Facilities and Conductors – New Monopoles and Overhead 230 kV Conductor	Class III (for transition area and modifications to substations)						
KOP 1 – Residential – Mount Miguel Road, East	Class I	V-2a: Reduce visual contrasts of monopoles and insulators.	Significant				
KOP 2 – Residential - Coltridge Lane	Class I	V-2a (above)	Significant				
KOP 3 – Bonita Long Canyon Park	Class I	V-2a (above) and V-2b: Reduce long-term visual contrasts with landscape enhancements at parks and recreation areas.	Significant				
KOP 4 – Residential - Pepperwood Court	Class I	V-2a (above)	Significant				
KOP 5 – Residential - Via Hacienda	Class I	V-2a (above)	Significant				
KOP 6 – Otay Lakes Road	Class II	V-2a (above)	Significant				
KOP 7 – Bonita Vista Middle School and Residential	Class I	V-2a (above)	Less Than Significant				
KOP 8 – Discovery Park	Class I	V-2a and V-2b (above)	Significant				
KOP 9 – Residential - Chestnut Court	Class I	V-2a (above)	Significant				
KOP 10 – Sunridge Park	Class I	V-2a and V-2b (above)	Significant				
KOP 11 – Residential - Blackwood Road	Class I	V-2a (above)	Significant				
KOP 12 – Telegraph Canyon Road	Class III	None	Less Than Significant				
KOP 13 – Sunbow Park	Class I	V-2a and V-2b (above)	Significant				
KOP 14 – Residential Area, Crescent Drive	Class I	V-2a (above)	Significant				
KOP 15 – Greg Rogers Park	Class I	V-2a and V-2b (above)	Significant				
KOP 16 – Residential - Raven Avenue	Class I	V-2a (above)	Significant				

	TABLE 5-1						
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT							
Impact	Impact Class	Mitigation Measures	Residual Impact				
KOP 17 – Nacion Avenue	Class II	V-2a (above)	Less Than Significant				
KOP 18 – Residential – Spruce Street	Class I	V-2a (above)	Significant				
KOP 19 – Reinstra Ball Fields	Class I	V-2a and V-2b (above)	Significant				
KOP 20 – SDG&E Park	Class I	V-2a and V-2b (above)	Significant				
KOP 21 – Residential - Jicama Way	Class I	V-2a (above)	Significant				
KOP 22 – Residential - 5-10 Mobile Home Ranch	Class I	V-2a and V-2b (above)	Significant				
KOP 23 – Chula Vista South Public Library	Class II	V-2a (above)	Less Than Significant				
KOP 24 – Residential - Lynwood South Mobile Estates	Class I	V-2a (above)	Significant				
KOP 25 – Residential - Trenton Street	Class I	V-2a (above)	Significant				
KOP 26 – Interstate 5 South	Class II	V-2a (above)	Less Than Significant				
KOP 29 – Sicard Street at Main Street	Class III	None	Less Than Significant				
V-3: Long-term Visual Impacts – Visual/Aesthetic Impacts from Modified SDG&E Bridge Structures and Conductors							
KOP 28 – Harbor Drive Near 28th Street, View Looking East	Class III	None	Less Than Significant				
V-4: Long-term Visual Impacts – Visual/Aesthetic Impacts to Landscape Resources due to physical ground disturbances	Class II	V-4a Reduce long-term landscape impacts.	Less Than Significant				
associated with project construction and operation		Mitigation Measures T-8a and T-8b					

Impact	Applicable Alternatives	Impact Class	Mitigation Measures	Residual Impact
Air Quality	Alternatives	01055	Witigation Measures	Residual impact
A-1: Violation of Air Quality Standard or Substantial Contribution to an Existing or Projected Air Quality Violation	All Alternatives	Class III	None	Less Than Significant
A-2: Expose Sensitive Receptors to Substantial Pollutant Concentrations	All Alternatives	Class III	None	Less Than Significant
A-3: Create Objectionable Odors	All Alternatives	Class III	None	Less Than Significant
A-4: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan	All Alternatives	No Impact	None	None
A-5: Transmission Line Operation Would Cause Emissions from Power Plants	All Alternatives	Class III	None	Less Than Significant
Biological Resources	•		·	
B-1: Temporary and Permanent Loss of Sensitive Vegetation Communities	SB Alternative	Class II	B-1a: Restore temporarily disturbed areas or deduct from the SDG&E Mitigation Credits.	Less Than Significant
B-2: Impacts to Sensitive Plant Species	SB Alternative	Class II	B-2a: Conduct focused surveys for San Diego barrel cactus, willowy monardella, San Diego ambrosia, Otay tarplant, snake cholla, Mexican flannelbush, Nuttall's lotus, and saltmarsh bird's beak. Avoid sensitive plants to the maximum extent possible, or provide restoration/compensation. Provide qualified biologist to monitor during construction.	Less Than Significant
B-3: Impacts to Sensitive Animal Species	SB Alternative	Class II	 B-3a: Provide qualified biologist to monitor project during construction. Consult with USFWS and CDFG prior to impacting a narrow endemic species. B-3b: Protect California gnatcatcher and its habitat B-3c: Protect San Diego cactus wren and its habitat 	Less Than Significant

Alternative Abbreviations: Pacific Highway Bridge Attachment (PH); Harbor Bridge Attachment (HB); Sicard Street Transition Cable Pole (SS); South Bay Power Plant to Sweetwater River Overhead Option (SB); and Transmission System 7 – Miguel to South Bay (TS-7)

Impact	Applicable Alternatives	Impact Class	Mitigation Measures Residual Impact
imptor		Clabo	B-3d: Remove existing raptor nests during the
			non-breeding season. Provide a qualified
			biologist to monitor any active nests.
			B-3e: Protect western burrowing owl and its
			habitat
			B-3f: Protect Belding's savannah sparrow
			B-3g: Protect light-footed clapper rail and its
			habitat
		a	B-3h: Protect wandering skipper and its habitat
B-4: Wildlife Corridors	SB Alternative	Class III	None Less Than Significant
B-5: Impacts by Invasive Plant Species	SB Alternative	Class III	None Less Than Significant
B-6: Impacts Due to Bird Electrocution and Tower/Line Collisions	SB Alternative	Class III	None Less Than Significant
B-7: Indirect Impacts Resulting from fugitive dust, human	SB Alternative	Class II	B-7a: Reduce night lighting on sensitive Less Than Significant
activity, decreased water quality, construction noise, and			habitats.
night lighting			
B-8: Impacts to Regional Plans, NCCPs, HCPs, Conservation	SB Alternative	Class III	None
Plans and Critical Habitat			
Cultural Resources		<u>.</u>	
C-1: Construction Could Affect Known Cultural Resources	All Alternatives	Class III	None Less Than Significant
C-2: Construction Could Affect Undiscovered Cultural	All Alternatives	Class II	C-2a: Prepare Cultural Resources Treatment Less Than Significant
Resources			Plan.
			C-2b Conduct construction monitoring.
C-3: Future Maintenance Operations Could Affect Cultural	All Alternatives	Class III	None Less Than Significant
Resources			
Geology, Soils and Paleontology		Class II	C. 1a Daduce effects of ground chaking Loss Than Significant
G-1: Ground acceleration/ground shaking, which could damage components	All Alternatives	Class II	G-1a Reduce effects of ground shaking. Less Than Significant
G-2: Ground rupture, which could displace surface deposits	Alternatives PH,	Class II	G-2a Minimize project structures within active Less Than Significant
along faults	HB, SS		fault zone
G-3: Seismically Induced Ground Failures Including	All Alternatives	Class II	G-3a: Perform geotechnical investigations for Less Than Significant
Liquefaction, Lateral Spreading, and Seismic Slope	All Alternatives	01033 11	liquefaction and slope instability.
Instability			
G-4: Slope Instability Including Landslides, Earth Flows, and	Alternative TS-7	Class II	G-4a: Perform geotechnical surveys for Less Than Significant
Debris Flows			landslides

Alternative Abbreviations: Pacific Highway Bridge Attachment (PH); Harbor Bridge Attachment (HB); Sicard Street Transition Cable Pole (SS); South Bay Power Plant to Sweetwater River Overhead Option (SB); and Transmission System 7 – Miguel to South Bay (TS-7)

Impact	Applicable Alternatives	Impact Class	Mitigation Measures	Residual Impact
G-5: Soils Which Could Damage Foundations or Have High Erosion Potential	Alternative TS-7	Class II	 G-5a: Evaluate geologic stability of soils and make recommendations for the best foundation type for structures. G-5b: Perform corrosivity testing for each support structure and substation 	Less Than Significant
G-6: Mineral Resources	Alternative TS-7	Class III	None	Less Than Significant
G-7: Construction Activities May Destroy Paleontologic Resources	Alternative TS-7	Class II	G-7a: Provide a paleontologist or paleontological to monitor for fossils during excavation activities.	Less Than Significant
Hydrology And Water Quality				
H-1: Soil Erosion Water Quality Degradation and Sedimentation from Construction Activity and Access Roads	All Alternatives	Class III	None	Less Than Significant
H-2: Degradation of Water Quality Through Spill of Potentially Harmful Materials Used in Construction	All Alternatives	Class III	None	Less Than Significant
H-3: Groundwater Disturbance and Water Quality Degradation Through Project-Related Excavation	Alternatives PH, SS, TS-7	Class II	See Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3 H-3a: Provide compliance with federal and state regulations for groundwater discharge into surface water bodies.	Less Than Significant
H-4: Increased Runoff from New Impervious Areas and Alteration of Existing Drainage Patterns	Alternative TS-7	Class II	H-4a: Access roads and drainage systems shall be designed to account for anticipated surface runoff and channel flow.	Less Than Significant
H-5: Encroachment into a Floodplain or Watercourse by Permanent Project Features	Alternative PH, SB	None	None	None
H-6: Construction in a Potential Dam Inundation Area	All Alternatives	Class III	None	Less Than Significant
H-7: Operation and Maintenance Impacts to Surface Water and Groundwater Quality	All Alternatives	Class III	None	None
Land Use, Agriculture and Recreation				
L-1: Conflict with an Applicable Land Use Plan, Policy, or Regulation	SB Alternative	Class I	None	Significant
L-2: Physically Divide an Established Community	All Alternatives	Class III	None	Less Than Significant
L-3: Disrupt an Established Land Use	All Alternatives	Class II	L-3a: Provide construction notification and minimize construction disturbance.	Less Than Significant

Alternative Abbreviations: Pacific Highway Bridge Attachment (PH); Harbor Bridge Attachment (HB); Sicard Street Transition Cable Pole (SS); South Bay Power Plant to Sweetwater River Overhead Option (SB); and Transmission System 7 – Miguel to South Bay (TS-7) March 2005 ES-77 Dra

	Applicable	Impact		
Impact	Alternatives	Class	Mitigation Measures	Residual Impact
			L-3b Provide public liaison person and	
			information hotline	
			L-3c Provide continuous access to properties.	
			L-3d Coordinate with businesses.	
			See Mitigation Measures T-1a (Prepare	
			Transportation Management Plan), T-1b	
			(Restrict Lane Closures), T-7a (Loss of Parking),	
			and T-9 (Restricted Circulation Access).	
L-4: Displace an Established Land Use	All Alternatives	Class II	L-4a: Limit project variances to minor project changes.	Less Than Significant
L-5: Substantially Deteriorate a Recreational Facility or	Alternative TS-7	Class II	L-5a: Avoid peak recreational usage.	Less Than Significant
Disrupt Recreational Activities			L-5b: Notify users of recreational resources	
L-6: Convert Farmland to Non-Agricultural Use	Alternative TS-7	Class III	None	Less Than Significant
L-7: Conflict with an Existing Agricultural Use or a Williamson	Alternative TS-7	Class III	None	Less Than Significant
Act Contract				
L-8: Conflict with Planned Future Development	Alternative TS-7	Class II	See Mitigation Measures T-8a and T-8b	Less Than Significant
Noise and Vibration	•			
N-1: Construction Activities Would Temporarily Increase Local	All Alternatives	Class II	N-1a: Comply with applicable noise ordinance.	Less Than Significant
Noise Levels			N-1b: Provide advance notice of construction.	
			N-1c: Provide liaison for construction nuisance	
			complaints.	
N-2: Vibration Could Cause a Temporary Nuisance During	All Alternatives	Class II	See Mitigation Measures N-1a, b, and c.	Less Than Significant
Construction				
N-3: Corona Noise from Operation of the Overhead	Alternative SB,	Class III	None	Less Than Significant
Transmission Line	TS-7			
N-4: Noise from Inspection and Maintenance Activities	Alternative TS-7	Class III	None	Less Than Significant
Public Health & Safety	1		1	
PS-1: Radio and Television Interference	All Alternatives	Class II	PS-1a: Limit conductor surface potential.	Less Than Significant
			PS-1b Document complaints of broadcast	
			interference.	
PS-2: Induced Currents and Shock Hazards in Joint Use	All Alternatives	Class II	PS-2a: Identify objects that have the potential	Less Than Significant
Corridors			for induced voltages and determine	
		0	proper grounding procedures	
PS-3: Effects on Cardiac Pacemakers	All Alternatives	Class III	None	Less Than Significant
PS-4: Wind, Earthquake, and Fire Hazards	Alternative TS-7	Class III	None	Less Than Significant

Alternative Abbreviations: Pacific Highway Bridge Attachment (PH); Harbor Bridge Attachment (HB); Sicard Street Transition Cable Pole (SS); South Bay Power Plant to Sweetwater River Overhead Option (SB); and Transmission System 7 – Miguel to South Bay (TS-7) March 2005 ES-78 Dra

	Applicable	Impact		
Impact	Alternatives	Class	Mitigation Measures	Residual Impact
Public Services and Utilities				
U-1: Utility System Disruption	All Alternatives	Class II	 U-1a: Notification of Utility Service Interruption U-1b: Coordinate with affected jurisdiction to avoid conflicts with planned and proposed utility projects and any relocation of existing utilities. U-1c Provide protection for underground utilities. U-1d Protect utilities against corrosion. 	Less Than Significant
U-2: Public Service System Disruptions	All Alternatives	Class II	See Mitigation Measure T-6a	Less Than Significant
U-3: Project-Required Utility and Public Service Demands	All Alternatives	Class III	None	Less Than Significant
Paleontological Resources				
S-1: Project Related Population Growth	All Alternatives	No Impact	None	None
S-2: Induced Demand for Housing	All Alternatives	Class III	None	Less Than Significant
S-3: Displacement of People or Existing Housing	All Alternatives	No Impact	None	None
Transportation and Traffic	•		·	
T-1: Road and Lane Closures, Emergency Response	All Alternatives	Class II	T-1a: Prepare transportation management plan. T-1b Restrict lane closures	Less Than Significant
T-2: Construction-Generated Traffic	All Alternatives	Class III	None	Less Than Significant
T-3: Physical Impacts to Roads and Sidewalks	All Alternatives	Class II	T-3a: Repair damaged roadways.	Less Than Significant
T-4: Impacts to Transit and Rail Operations	All Alternatives	Class II	T-4a: Coordinate with MTDB in preparing the Transportation Management Plans (TMPs).	Less Than Significant
T-5: Interfere with Pedestrian/Bicycle Circulation and Safety	All Alternatives	Class II	T-5a: Provide pedestrian and bicycle circulation and safety	Less Than Significant
T-6: Construction would Interfere with Emergency Response	All Alternatives	Class II	T-6a: Ensure emergency response access.	Less Than Significant
T-7: Construction Would Cause a Loss of Parking	Alternatives PH, SS, TS-7	Class II	T-7a: Coordinate with the lessee and/or owner of affected parking lots.T-7b Post signage to notify residences and businesses of trenching activities.	Less Than Significant
T-8: Conflict with Planned Roadway Improvement Projects	All Alternatives	No Impact	None	No Impact

Alternative Abbreviations: Pacific Highway Bridge Attachment (PH); Harbor Bridge Attachment (HB); Sicard Street Transition Cable Pole (SS); South Bay Power Plant to Sweetwater River Overhead Option (SB); and Transmission System 7 – Miguel to South Bay (TS-7) March 2005 ES-79 Dra

Impact	Applicable Alternatives	Impact Class	Mitigation Measures	Residual Impact
T-9: Restricted Access to Properties	All Alternatives	Class II	T-9a: Notify affected parties of potential	Less Than Significant
			obstructions and make provisions for	2000 man olgimount
			alternative access.	
			T-9b Ensure that at least one access driveway	
			is left unblocked during all business	
			hours or hours of use.	
Visual				
V-1: Short-term Visibility of Construction Activities and	All Alternatives	Class II	V-1a Reduce visibility of construction activities	Less Than Significant
Equipment			and equipment.	
V-2: Long-term Visual Impacts – Visual/Aesthetic Impacts	Alternative TS-7			
from New Facilities and Conductors – New Monopoles				
and Overhead 230 kV Conductor		01	Neg	Lass Then Circliferent
KOP No. 1 – Residential – Mount Miguel Road, East KOP 2 – Residential - Coltridge Lane		Class III	None	Less Than Significant
		Class III	None	Less Than Significant
KOP 3 – Bonita Long Canyon Park		Class III	None	Less Than Significant
KOP 4 – Residential - Pepperwood Court		Class III	None	Less Than Significant
KOP 5 – Residential - Via Hacienda		Class III	None	Less Than Significant
KOP 6 – Otay Lakes Road KOP 7 – Bonita Vista Middle School and Residential		Class III	None	Less Than Significant
		Class III Class III	None None	Less Than Significant
KOP 8 – Discovery Park KOP 9 – Residential - Chestnut Court		Class III Class III	None	Less Than Significant
			None	Less Than Significant
KOP 10 – Sunridge Park KOP 11 – Residential - Blackwood Road		Class III Class III	None	Less Than Significant
			None	Less Than Significant
KOP 12 – Telegraph Canyon Road KOP 13 – Sunbow Park		Class III Class III	None	Less Than Significant
			None	Less Than Significant
		Class III	None	Less Than Significant
KOP 15 – Greg Rogers Park KOP 16 – Residential - Raven Avenue		Class III		Less Than Significant
		Class III	None	Less Than Significant
KOP 17 – Nacion Avenue		Class III	None	Less Than Significant
KOP 18 – Residential – Spruce Street		Class III	None	Less Than Significant
KOP 19 – Reinstra Ball Fields		Class III	None	Less Than Significant
KOP 20 – SDG&E Park		Class III	None	Less Than Significant
KOP 21 – Residential - Jicama Way		Class III	None	Less Than Significant
KOP 22 – Residential - 5-10 Mobile Home Ranch		Class III	None	Less Than Significant

Alternative Abbreviations: Pacific Highway Bridge Attachment (PH); Harbor Bridge Attachment (HB); Sicard Street Transition Cable Pole (SS); South Bay Power Plant to Sweetwater River Overhead Option (SB); and Transmission System 7 – Miguel to South Bay (TS-7)

	Applicable	Impact		
Impact	Alternatives	Class	Mitigation Measures	Residual Impact
KOP 23 – Chula Vista South Public Library		Class III	None	Less Than Significant
KOP 24 – Residential - Lynwood South Mobile Estates		Class III	None	Less Than Significant
KOP 25 – Residential - Trenton Street		Class III	None	Less Than Significant
KOP 26 – Interstate 5 South		Class III	None	Less Than Significant
KOP 29 – Sicard Street at Main Street		Class III	None	Less Than Significant
V-3: Long-term Visual Impacts – Visual/Aesthetic Impacts from Modified SDG&E Bridge Structures and Conductors	All Alternatives			
KOP 28 – Harbor Drive Near 28th Street, View Looking East		Class III	None	Less Than Significant
V-4: Long-term Visual Impacts – Visual/Aesthetic Impacts to Landscape Resources due to physical ground disturbances associated with project construction and operation	All Alternatives	Class II	V-4a Reduce long-term landscape impacts. Mitigation Measures T-8a and T-8b	Less Than Significant

A. INTRODUCTION/OVERVIEW

This Draft Environmental Impact Report (EIR) has been prepared by the California Public Utilities Commission (CPUC) as the Lead Agency under the California Environmental Quality Act (CEQA) to inform the public and to meet the needs of local, State, and federal permitting agencies to consider the project proposed by San Diego Gas & Electric Company (SDG&E or "the Applicant"). This EIR does not make a recommendation regarding the approval or denial of the project; it is purely informational in content, and will be used by the CPUC in considering whether or not to approve the Proposed Project or an alternative.

On March 8, 2004, SDG&E submitted an application (A.04-03-008) and a Proponent's Environmental Assessment (PEA) to the CPUC for the Otay Mesa Power Purchase Agreement (OMPPA) Transmission Project (SDG&E, 2004). The purpose of this application was to obtain a Certificate of Public Convenience and Necessity (CPCN). As a result of ongoing negotiations between the City of Chula Vista and SDG&E regarding several energy related facilities and the City of Chula Vista's efforts to redevelop the San Diego Bayfront, SDG&E amended Application A.04-03-008 on November 18, 2004 to revise the project description along the City of Chula Vista's Bayfront redevelopment area. The project proposed by SDG&E (the "Proposed Project") as amended November 2004 is described briefly in Section A.1 below, and in detail in Section B of this EIR.

The purpose of the EIR is to evaluate the environmental impacts that would be expected to result from construction and operation of SDG&E's Proposed Project, and to provide recommended mitigation measures that, if adopted, would avoid or minimize the significant environmental impacts identified. In accordance with CEQA requirements, this EIR identifies alternatives to the Proposed Project that could avoid or minimize significant environmental impacts associated with the Project as proposed by SDG&E (including the No Project Alternative), and evaluates the environmental impacts associated with these alternatives. Based on this environmental impact assessment, as well as the relative sensitivities of impacts in the study region, this EIR in Section E determines the Environmentally Superior Alternative as required by CEQA.

The content of this EIR reflects input by government officials, agencies, non-governmental organizations, and concerned members of the public during the EIR scoping period following the CPUC's publication of the Notice of Preparation (NOP) of an EIR (July 23, 2004). During this comment period, several public involvement activities were completed: public distribution of the NOP and a scoping meeting notice, establishment of an Internet web page, three public scoping meetings, and meetings with a number of affected local jurisdictions (see details in Section H). Consultation with agencies also continued after the formal scoping period ended.

This section is organized as follows:

- Section A.1 briefly describes the OMPPA Transmission Project as proposed by SDG&E.
- Section A.2 presents information related to the need for the Proposed Project.
- Section A.3 describes agency use of the EIR, and includes a brief description of the CPUC process for consideration of project approval.
- Section A.4 presents a Reader's Guide to this EIR, explaining how it is organized.

A.1 Overview of Proposed Project

As proposed by SDG&E, the OMPPA Transmission Project primarily consists of a new 230 kilovolt (kV) electric transmission line (circuit) that would connect the Otay Mesa Generation Project (OMGP), currently under construction near SDG&E's existing Miguel Substation, with SDG&E's existing Sycamore Canyon Substation, and a second 230 kV electric transmission line that would connect the OMGP to SDG&E's existing Old Town Substation, a new transition station, two new overhead to underground transition cable poles, and modifications to SDG&E's existing Sycamore Canyon, Miguel, and Old Town Substations. The project proposes to install the new 230 kV electric transmission line includes approximately 42 miles proposed to be located within existing SDG&E right-of-way (ROW) and would cross the cities of Santee, Chula Vista, National City, San Diego, unincorporated areas of eastern San Diego County, and military lands. The underground portion of the line includes approximately ten miles, proposed to be installed in a new underground duct bank, primarily within SDG&E ROW and City of San Diego roadways. Project facilities can be divided into the following six different segments and related substation modifications:

- 1. Sycamore Canyon Substation to the Fanita Junction (*Location: U.S. Marine Corps Air Station Miramar*): Along this four-mile segment, the project consists of the installation of a new 230 kV electric transmission line on a vacant position on existing towers from the Sycamore Canyon Substation to Fanita Junction, along with the reconductor of an existing 138 kV line, replacement of nine two-pole wood structures to facilitate the 138 kV reconductor, replacement of two existing lattice towers with two tubular steel poles at Fanita Junction, installation of three new wood poles at Fanita Junction and installation of a fiber optic line on the existing 230 kV towers.
- 2. Fanita Junction to Miguel Substation (*Location: Cities of San Diego, Santee and unincorporated San Diego County*): Along this 24-mile segment, the project consists of the installation of a new second 230 kV electric transmission line between Fanita Junction and SDG&E's Miguel Substation in vacant positions on the 230 kV

transmission structures approved as part of SDG&E's Miguel-Mission 230 kV #2 Project. The Miguel-Mission 230 kV #2 Project is a stand-alone project that was reviewed by the CPUC under a separate CPCN proceeding (A.O2-07-022) and EIR analysis. As part of the EIR analysis conducted for the Miguel-Mission 230 kV #2 Project, the construction and operation of the second 230 kV line between Fanita Junction and the Miguel Substation, proposed as part of the OMPPA Transmission Project, was analyzed in accordance with the criteria, standards, and procedures of CEQA. Analysis of the second 230 kV line between Fanita Junction and the Miguel Substation was conducted in the EIR completed for the Miguel-Mission 230 kV #2 Project, because of the direct connection with the 230 kV transmission structures approved as part of the Miguel-Mission project and likelihood of being proposed in the future (Miguel-Mission 230 kV #2 Project Final EIR, June 2004). On July 8, 2004, the Commission certified the Miguel-Mission 230 kV #2 Project Final EIR including analysis of the second line which, as described in Section A.4.1, is available for review at the California Public Utilities Commission, Central Files, 505 Van Ness Avenue, San Francisco, California. Therefore, while CPUC approval of the proposed project would include construction and operation of the second line between Fanita Junction and the Miguel Substation, no further project level analysis of this segment will be evaluated in this EIR. However, the Miguel-Mission 230 kV #2 project is considered in this document as part of the cumulative impact analysis (see Section F, Other CEOA Sections).

- 3. Miguel Substation to South Bay Power Plant (*Location: Cities of Chula Vista and unincorporated San Diego County*): Along this ten-mile segment, the project consists of the installation of a new ten-mile overhead 230 kV electric transmission line from the Miguel Substation to the Duke Energy South Bay Power Plant (South Bay Power Plant) switchyard area on approximately 63 new steel tubular poles, realignment of 3,000 feet of an existing 139 kV wood pole line leading into the Miguel Substation, and installation of a fiber optic line atop the existing 230 kV structures.
- 4. South Bay Power Plant to Sweetwater River (*Location: City of Chula Vista*): Along this three-mile segment, the project consists of the installation of a new underground 230 kV cable and fiber optic line primarily within existing SDG&E ROW from an overhead to underground transition cable pole located near the South Bay Power Plant to an underground to overhead transition cable pole located on the south side of the Sweetwater River. Modification or replacement of up to two existing bridge structures located south of the Sweetwater River near mile-post 40.8 to accommodate the overhead positioning of the new 230 kV line is also proposed.

- 5. Sweetwater River Area to Sicard Street Transition Area (*Location: Cities of National City, and San Diego and Naval Station San Diego*): Along this four-mile segment, the project consists of modifications to approximately 30 existing bridge tower structures to accommodate a new overhead 230 kV electric transmission line from just south of the Sweetwater River to the Sicard Street Transition Area near the Main Street Substation, where the line would transition from overhead to underground. Upgrade of an existing 138 kV twinned line on one side of the existing bridge structures to a 230 kV line, reconductor of an existing 138 kV line on the existing bridge structures to a commodate a reconfiguration of the existing 138 kV lines, and installation of fiber optic line on the existing bridge structures is also proposed.
- 6. Sicard Street Transition Area to Old Town Substation (*Location: City of San Diego*): Along this final seven-mile segment, the project consists of the installation of a new underground 230 kV cable in city streets from Sicard Street to SDG&E's Old Town Substation, construction of a new 0.1 acre transition station, and installation of fiber optic line within the underground duct bank.

In addition to the new 230 kV electric transmission lines and new overhead to underground transition station and cable poles, there are proposed modifications to the Sycamore Canyon, Miguel, and Old Town Substations to accommodate the new 230 kV lines. All proposed modifications would occur within existing substation properties.

At the Sycamore Canyon Substation, the project consists of installation of 230 kV line breakers, 230 kV disconnect switches, bus and equipment support structures, associated controls, and relays and communications equipment. At the Miguel Substation, the project consists of installation of two 80-foot dead-end structures, a 110-foot steel pole, 230 kV line breakers, 230 kV disconnect switches, bus and equipment support structures, associated controls, and relays and communications equipment. At the Old Town Substation, the project consists of installation of 230 kV line breakers, 230 kV disconnect switches, 230 kV disconnect switches, 230 kV terminators surge arrestors, equipment support structures, and communications equipment.

A.2 Project Purpose and Need

A.2.1 Regulatory Background and Project History

On October 29, 2001, the CPUC initiated Rulemaking (R.) 01-10-024 to establish mechanisms for California investor-owned electric utilities to resume purchasing electric energy, capacity, ancillary services, and related instruments to meet the needs of their electric customers. On October 8, 2003, SDG&E filed in R.01-10-024 a proposed resource plan with the CPUC to purchase a mix of demand response (including programs that implement voluntary reduction of

energy use) and local generation assets, including energy from renewable resources and new power plants. SDG&E's proposed resource plan reflects a CPUC Decision (D.02-10-062), effective January 1, 2003, to return SDG&E to the role of both planning and procuring electricity for its customers, particularly after the 2000-2001 energy crisis. SDG&E's October 2003 resource plan filing is also in line with its corporate 20-year long-term resource plan, announced in April 2003 and pursuant to Ordering Paragraph 9 of D.-02-10-062. That long-term plan outlines a goal of establishing a portfolio of balanced resource options, including more energy efficiency, use of renewable energy, new transmission lines, and local generation.

As discussed in its general procurement proceeding (R.10-10-024), SDG&E requested CPUC approval to sign a ten-year Power Purchase Agreement (PPA) for 570 megawatts (MW) of power from Calpine Corporation's OMGP. The justification for the Otay Mesa PPA (OMPPA) and alternatives to the OMPPA were addressed in CPUC proceeding R.01-10-024. In June 2004, the CPUC approved in Decision D.04-06-011 SDG&E's request, and subsequently, in order to achieve the benefits documented in its generation procurement proceeding, SDG&E has entered into a ten-year PPA with Calpine Corporation to purchase 570 MW of power from Calpine's OMGP. Under the agreement, the OMGP would begin supplying power to SDG&E by 2008 at regulated rates. Energy delivered to SDG&E under the OMPPA is expected to provide benefits to SDG&E ratepayers in the form of reduced wholesale power costs, along with the potential for added benefits from the displacement of more expensive Reliability Must Run ("RMR") generation provided by older, less efficient units in the SDG&E service area. Power provided by the OMGP to SDG&E is also expected to help meet the long-term energy and capacity and grid reliability needs of SDG&E customers.

Transmission facilities required to interconnect the OMGP to SDG&E's electric transmission system, specifically connection to SDG&E's Miguel Substation, were reviewed by the California Energy Commission as part of its certification for the OMGP, and are not part of the OMPPA Transmission Project. The Energy Commission approved the OMGP on April 18, 2001 in Docket No. 99-AFC-5. However, transmission constraints on SDG&E's transmission system prevent the OMGP from reliable delivery of its full output to SDG&E load centers as contemplated under the OMPPA. In order to assure the reliable delivery of the full output from the OMGP to SDG&E's major load centers, SDG&E has proposed the OMPPA Transmission Project. SDG&E issued a final Facilities Study Report to the California Independent System Operator (CAL-ISO) in July 2004. CAL-ISO concurrence is expected in spring 2005.

In its PEA, SDG&E stated that the OMPPA Transmission Project would be needed by 2008 to meet the Project objectives described in *Section A.2.2*. A determination regarding the need for the proposed project and the timing of the need will be made by the CPUC in its decision-making process described in *Section A.3.1*.

A.2.2 Statement of Objectives

CEQA Guidelines (Section 15126.6[a]) requires that project objectives be set forth in an EIR in order to help define alternatives to the Proposed Project that meet most of the basic project objectives. SDG&E's PEA lists the following basic objectives for the OMPPA Transmission Project as well as the following explanation by the applicant as to how the Proposed Project meets those objectives:

1. Full Dispatchability of Resources

The electric transmission plan of service developed by SDG&E for the OMPPA would assure that the full output of the proposed generation can be delivered into the San Diego local reliability area (LRA) concurrently with the aggregate output from other existing RMR resources and imports that are required to meet the G- I /N-1¹ reliability criterion. However, the studies allowed that a portion of the existing RMR resources would be displaced by the output of the proposed project.

2. Firm Transmission Delivery of Otay Mesa Generation Project to Load Centers

Allow firm delivery of the output of the OMGP into SDG&E's LRA, and would deliver the output of the plant to major load centers at the Sycamore Canyon and Old Town substations, along with surrounding substations.

3. Need to Mitigate Intra-Zonal Congestion

A significant transmission bottleneck currently exists at the Miguel Substation. The original transmission plan of service² included in the California Energy Commission licensing application for the project only included the upgrade of transmission facilities from the OMGP up to the Miguel Substation, which would not eliminate the congestion in the Miguel Substation area. Since the project would be located to the south of the Miguel Substation congestion bottleneck, any power output from the plant would aggravate the existing congestion problem.³

¹ For purpose of SDG&E capacity planning, this criterion requires that SDG&E have sufficient on-system resources and import capability to serve the 1- in 10-year peak summer demand forecast of the local reliability area during the worst G-1/N-1 event. In SDG&E's case, the worst G-1/N-1 event is currently an overlapping outage of the Encina 5 unit plus loss of the Southwest Power Link.

² Upgrading and bifurcation of the existing 230 kilovolt (kV) line between the OMGP and the Miguel Substation (expected to be completed in 2005) was approved as part of the original California Energy Commission licensing process.

³ Various other near-term congestion upgrades planned by SDG&E, including the addition of a 500/230 kV transformer at the Miguel Substation and the upgrade of the 500 kV series capacitor at Imperial Valley, also do not mitigate the impact of the OMGP on congestion north of the Miguel Substation.

The worst congestion condition for the OMGP would occur under pre- contingency (N-0) conditions when the output of the plant would significantly add to the flows through the Miguel Substation. As a result, dispatch of the plant's full capacity as an RMR resource cannot be guaranteed on a day-ahead basis unless adequate deliverability upgrades are installed.⁴

4. Meet G-1/N-1 Reliability Need Due to Future Load Growth

The CAL-ISO requires SDG&E to plan for a G-1/N-1 reliability scenario. With the OMPPA Transmission Project, the OMGP would be directly connected in the SDG&E LRA. This makes the Otay Mesa generating units available to fill the reliability need as identified in SDG&E's 20-year, long-term resource plan.

5. Expansion Capability for Future Load Growth and Possible Generation Retirement

The interconnection of the OMGP and the construction of the 230 kV transmission line to the Old Town Substation would provide strong backbone transmission support to the surrounding SDG&E service area. In particular, the 230 kV line from the Miguel Substation to the Old Town Substation would provide a strong 230 kV source to replace the local reliability support currently provided by the antiquated South Bay Power Plant. Under its contract with the San Diego Port District, Duke Energy is obligated to retire and dismantle the South Bay Power Plant, clean up contamination, and turn over the nearly 200-acre site to the San Diego Port District. Retirement of the plant may occur as early as December 2008.

In the near-term there is a minimum RMR requirement at the South Bay Power Plant to mitigate internal congestion. With the potential retirement of the South Bay Power Plant, the 230 kV line from the Miguel Substation that passes by the South Bay Power Plant would allow looping of the proposed line into a new 230/138/69 kV substation at South Bay to eliminate this RMR need and allow retirement of the plant.

6. Load Shedding and Potential Cascading Outage During Miguel Corridor Outage

While the event of having multiple lines out is very remote, planning for loss of an entire corridor is required by criteria established by the Western Electricity Coordinating Council and the North American Electric Reliability Council. Such an event occurred during the recent San Diego firestorm in October 2003 when multiple 69 kV, 138 kV, and 230 kV lines on the Miguel

⁴ The California Independent System Operator (CAL-ISO) stated in a letter to Calpine Corporation (Calpine), dated June 19, 2003, that the OMGP would be a candidate to provide reliability must run (RMR) support to San Diego Gas & Electric (SDG&E) based on the assumption that the plant could be dispatched during the worst case G-1/N-1 event (loss of Encina Power Plant Unit 5 and the Imperial Valley Substation to Miguel Substation 500 kilovolt line). However, the CAL-ISO subsequently informed Calpine and SDG&E that without adequate transmission upgrades, the OMGP would not displace existing in-basin RMR generation contracts.

corridor were forced out due to fire under these lines. The OMPPA Transmission Project helps to mitigate such events.

One of the proposed 230 kV lines to the Old Town Substation will head southwest of the Miguel Substation towards the South Bay Power Plant instead of the northern Miguel corridor where four 230 kV lines (Miguel Substation to Mission Substation #1 and #2, Miguel Substation to Sycamore Canyon Substation and the new OMGP to Sycamore Canyon Substation), a 138 kV line, and a 69 kV line share a common corridor. Without the proposed project, the Miguel common corridor outage event would result in significant loss of load and curtailment of generation that could potentially cause cascading outages. Generation tripping in excess of the 1,400-MW guideline set by the CAL-ISO would be required to prevent cascading outages and damage to transmission lines and transformers. The addition of the Old Town 230 kV line allows the Miguel corridor outage to be mitigated without exceeding the 1,400-MW generation tripping threshold.

7. Reliability Must Run Cost Savings for Consumers

The CAL-ISO, as part of its role to ensure grid reliability, has entered into RMR contracts with generating plants in SDG&E's service area. These contracts give the CAL-ISO the right to call on RMR plants to deliver power when needed for grid reliability and to manage intra-zonal congestion. The cost associated with the RMR contracts for units located in SDG&E's service area is passed on to SDG&E's customers. At the time SDG&E filed their application for the OMPPA Transmission Project (March 2004), the estimated RMR cost for SDG&E ratepayers in 2003 was about \$84.5 million (SDG&E, PEA March 2004). In 2004, SDG&E customers are forecasted to pay \$109 million (SDG&E, PEA March 2004). This cost is expected to continue increasing each year as additional capacity is added to meet growing RMR need. One of the benefits SDG&E customers would receive from the OMPPA Transmission Project is SDG&E's ability to meet some of the area's RMR needs. The project would meet the growing need for additional RMR units and replace some of the older, less efficient units that have existing RMR contracts with the CAL-ISO.

A.3 Agency Use of this Document

A.3.1 CPUC Process

Pursuant to Article XII of the Constitution of the State of California, the CPUC oversees the regulation of investor-owned public utilities, including SDG&E. The CPUC is also the lead State agency for consideration and analysis of SDG&E's proposed OMPPA Transmission Project with CEQA. The CPUC has directed the preparation of this EIR, which will ultimately be used by the CPUC, in conjunction with other information developed in the CPUC's formal

record, to act on SDG&E's application for a CPCN for construction and operation of the Proposed Project. Under CEQA requirements, the CPUC will determine the adequacy of the Final EIR and, if adequate, will certify the document as complying with CEQA. If the CPUC approves a project with significant and unmitigable impacts, it must state why in a Statement of Overriding Considerations," which would be included in the Commission's decision on the application.

The need for SDG&E to enter into a ten-year PPA to purchase 570 MW of power from Calpine's OMGP was already established on June 15, 2004 (CPUC Decision 04-06-011). In CPUC Decision 04-06-011, the OMPPA was identified as an action necessary to provide the region and the state with necessary long-term reliability and economic benefits. With regard to the OMPPA Transmission Project, the CPUC has assigned Administrative Law Judge (ALJ) Carol Brown to oversee the proceeding on the Proposed Project, and President Michael R. Peevey is the Assigned Commissioner for the CPCN application. The ALJ, in accordance with the Scoping Memo, is expected to hold Evidentiary Hearings on the CPCN application in March 2005 and will issue a Proposed Decision on the OMPPA Transmission Project in May 2005. A Decision is expected by the Commission in June 2005. The ALJ's Decision, and the Evidentiary Hearings, will cover issues specific to the OMPPA Transmission Project, including project need, project cost and other considerations.

A.3.2 Other Agencies

Several other State agencies will rely on information in this EIR to inform them in their decisions over issuance of specific permits related to project construction or operation (refer to Table A-1). In addition to the CPUC, State agencies such as the Department of Transportation (Caltrans), Department of Fish and Game, the Regional Water Quality Control Board, the Department of Parks and Recreation, and the Native American Heritage Commission would be involved in reviewing and/or approving the project. On the federal level, agencies with potential reviewing and/or permitting authority include the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Advisory Council on Historic Preservation, and the Occupational Safety and Health Administration. The Marine Corps Air Station at Miramar will also review the project and conform to the requirements of the National Environmental Quality Act (NEPA) because the route will pass through lands under its jurisdiction. On the local level, a coastal development permit/exemption/waiver will be required from the cities of San Diego, National City and Chula Vista. SDG&E will also be required to obtain all ministerial building and encroachment permits from local jurisdictions. In addition, the CPUC's General Order 131-D requires SDG&E to comply with local building, design, and safety standards to the greatest degree feasible to minimize project conflicts with local conditions.

TABLE A-1 PERMITS REQUIRED FOR THE OMPPA TRANSMISSION PROJECT					
Permits	Agency	Jurisdiction / Purpose			
Federal Agencies					
Nationwide Permit (Section 404 of the Clean Water Act)	U.S. Army Corps of Engineers	Waters of the United States, including wetlands			
Section 10 Rivers and Harbors Act	U.S. Army Corps of Engineers	Construction across Navigable Waters			
Section 7 consultation (through U.S. Army Corps of Engineers' review process)	U.S. Fish and Wildlife Service (USFWS)	Consultation on federally listed species; incidental take authorization (if required)			
Review of Committee for Land and Airspace Naval Engineering Command Management Policy (CLAMP) to cross Marine Corps Air Station Miramar		Construction, operation, and maintenance on land under Marine Corps management			
Lift Plant Permit	Federal Aviation Administration (FAA)	Helicopter Construction Plans			
Section 106 of the NHPA Review (through U.S. Army Corps of Engineers' review process)	Advisory Council on Historic Preservation	Cultural Resource Management Plan (if appropriate)			
State Agencies					
Certificate of Public Convenience and Necessity	CPUC	Overall Project approval and CEQA review			
National Pollutant Discharge Elimination System – General Construction Stormwater Permit	California Regional Water Quality Control Board (RWQCB), San Diego Region	This permit applies to all construction projects that disturb more than five acres.			
Section 401 Water Quality Certification (or waiver thereof)	RWQCB	Requests RWQCB's certification that the project is consistent with State water quality standards			
Encroachment Permit	Caltrans	Construction, operation and maintenance within, under, or over State Highway ROW (I-5, I-805, SR-8-, SR-94)			
Endangered Species consultation	California Department of Fish and Game (CDFG)	Consultation on State-listed species; incidental take authorization (if required)			
Section 1601 Streambed Alteration Agreement	CDFG	Alteration of the natural state of any stream			
Local Agencies					
Roadway Encroachment and Closure Permit	San Diego County	Construction, operation, and maintenance within roadway rights-of-way			
Roadway Encroachment and Closure Permit	Cities of San Diego, National City, and Chula Vista	Construction, operation, and maintenance within roadway rights-of-way.			
Grading and Building Permits	Cities of San Diego, National City, and Chula Vista	Permission to conduct grading and building activities			
Coastal Development Permit/Exemption/ Waiver	Cities of San Diego, National City, and Chula Vista	New development within the coastal zone.			

A.4 Reader's Guide to this EIR

A.4.1 Available for Review

SDG&E's PEA and other supporting documentation, submitted as part of its Application A.04-03-008 for the OMPPA Transmission Project (see *Section A.5, General References*), contains certain information that is incorporated by reference in some sections of this EIR.

The Miguel-Mission 230 kV #2 Project Final EIR (June 2004) contains the analysis of the construction and operation of the second 230 kV line in the vacant position on the approved 230 kV transmission line structures between Fanita Junction and the Miguel Substation, proposed as part of the OMPPA Transmission Project.

SDG&E's PEA and supporting documentation submitted as part of its Application A.04-03-008, and the Miguel-Mission 230 kV #2 Project Final EIR are available for public review during normal business hours at the CPUC's Central Files (505 Van Ness Avenue, San Francisco) and in local libraries (see Section H). Additionally, the Miguel-Mission 230 kV #2 Project Final EIR is also available via the Intranet at: <u>http://www.cpuc.ca.gov/</u>environment/info/aspen/miguel_mission/miguelmission.htm.

A.4.2 EIR Organization

This EIR is organized as follows:

Executive Summary. A summary description of the Proposed Project, the alternatives, their respective environmental impacts and the Environmentally Superior Alternative.

Impact Summary Tables. A tabulation of the impacts and mitigation measures for the Proposed Project and alternatives.

Section A (Introduction/Overview). A discussion of the background, purpose and need for the project, briefly describing the proposed OMPPA Transmission Project, and outlining the public agency use of the EIR.

Section B (**Project Description**). Detailed description of the proposed OMPPA Transmission Project.

Section C (Alternatives Process and Description). Summarized from Appendix 2, description of the alternatives evaluation process, description of alternatives considered but eliminated from

further analysis and the rationale therefore, and description of the alternatives analyzed in Section D.

Section D (**Environmental Analysis**). A comprehensive analysis and assessment of impacts and mitigation measures for the Proposed Project and several alternatives, including the No Project Alternative. This section is divided into main sections for each environmental issue area (e.g., Air Quality, Biological Resources) that contain the environmental settings and impacts of the Proposed Project and each alternative. At the end of each issue area analysis, a Mitigation Monitoring table is provided.

Section E (**Comparison of Alternatives**). Identification of the CEQA Environmentally Superior Alternative and a discussion of the relative advantages and disadvantages of the Proposed Project and alternatives that were evaluated.

Section F (Additional CEQA Considerations). A discussion of growth-inducing impacts, irreversible environmental changes, and cumulative impacts.

Section G (Proposed Mitigation Monitoring, Compliance, and Reporting Plan). A discussion of the CPUC's mitigation monitoring program requirements

Section H (Public Participation). A brief description of the public participation program for this EIR.

Section I (Report Preparation). List of preparers of the EIR and contacts with public agencies.

Appendices:

APPENDIX 1

Detailed Project Maps 1 through 30 and Structure Heights

APPENDIX 2

Alternatives Screening Report (Dudek & Associates, Inc., February 2005)

APPENDIX 3

Biological Resources Technical Report

- Biological Resources Technical Report (Essex, July 2004) including SDG&E Subregional Natural Community Conservation Plan – Operational Protocols
- Quino Checkerspot Butterfly 2004 Flight Survey Report (Recon, May 2004)
- Focused Survey Reports (Essex, January 2005)

APPENDIX 4

Cultural Resources Technical Report and Native American Consultation

- Cultural Resources Technical Report (Essex, July 2004)
- Native American Consultation

APPENDIX 5

List of Potentially Contaminated Sites – Hazardous Material Sites of Environmental Concern

APPENDIX 6

SDG&E EMF Management Plan

- Magnetic Field Management Plan (SDG&E, February 2004)
- SDG&E EMF Management Guidelines

APPENDIX 7

Memorandum of Understanding between San Diego Gas & Electric Company and The City of Chula Vista

A.5 General References

- CEC 2001. California Energy Commission Decision Otay Mesa Generation Project Decision No. 99-AFC-5. April 2001.
- CPUC 2004. Decision 04-06-011. June 15, 2004.
- SDG&E. 2004a. Proponent's Environmental Assessment (PEA) for the OMPPA Transmission Project. Submitted to the California Public Utilities Commission March, 2004.
- SDG&E 2004b. Application of San Diego Gas & Electric Company for a Certificate of Public Convenience and Necessity for the OMPPA Transmission Project, March 2004.
- SDG&E. 2004c. Supplement to Application for the OMPPA Transmission Project, May 2004.
- SDG&E. 2004d. Second Supplement to Application for the OMPPA Transmission Project, July 2004.
- SDG&E 2004e. Response of San Diego Gas & Electric to CPUC Data Request No. 1. July 2004.
- SDG&E 2004f. Response of San Diego Gas & Electric to CPUC Data Request No. 2. August 2004.

- SDG&E 2004g. Response of San Diego Gas & Electric to CPUC Data Request No. 3. September 2004.
- SDG&E 2004h. Response of San Diego Gas & Electric to CPUC Data Request No. 4. September 2004.
- SDG&E 2004i. Response of San Diego Gas & Electric to CPUC Data Request No. 5. September, October 2004.
- SDG&E 2004j. Response of San Diego Gas & Electric to CPUC Data Request No. 6. October, November 2004.
- SDG&E 2004k. SDG&E Otay Mesa Power Purchase Agreement Transmission Project Amended Project Description, November 2004.
- SDG&E 20041. Response of San Diego Gas & Electric to CPUC Data Request No. 7. December.
- SDG&E 2004m. Response of San Diego Gas & Electric to CPUC Data Request No. 8. December.

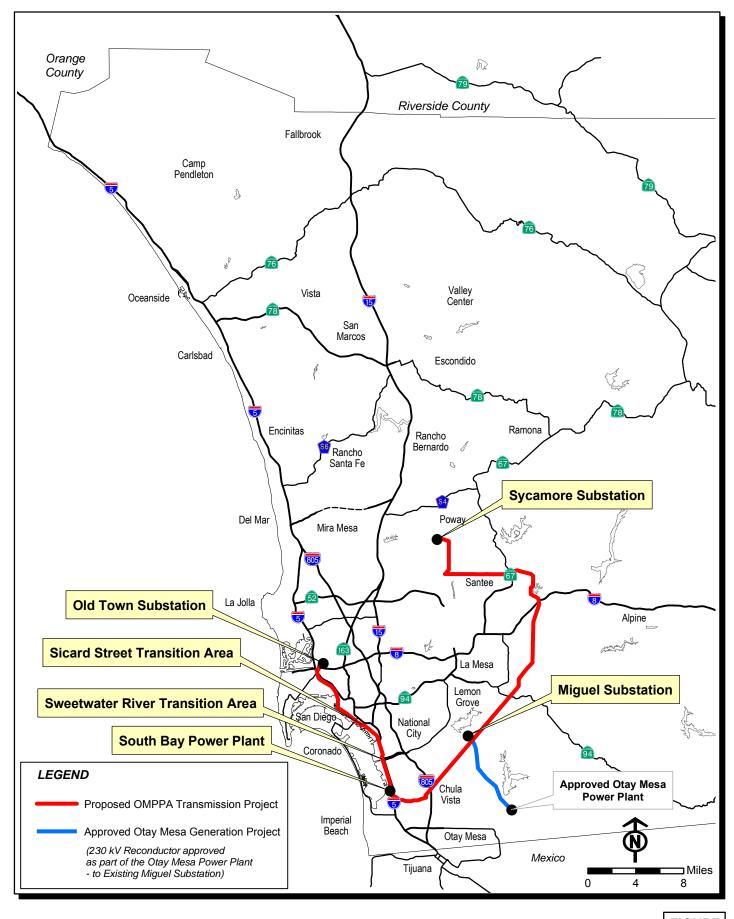
B. DESCRIPTION OF PROPOSED PROJECT

B.1 Introduction

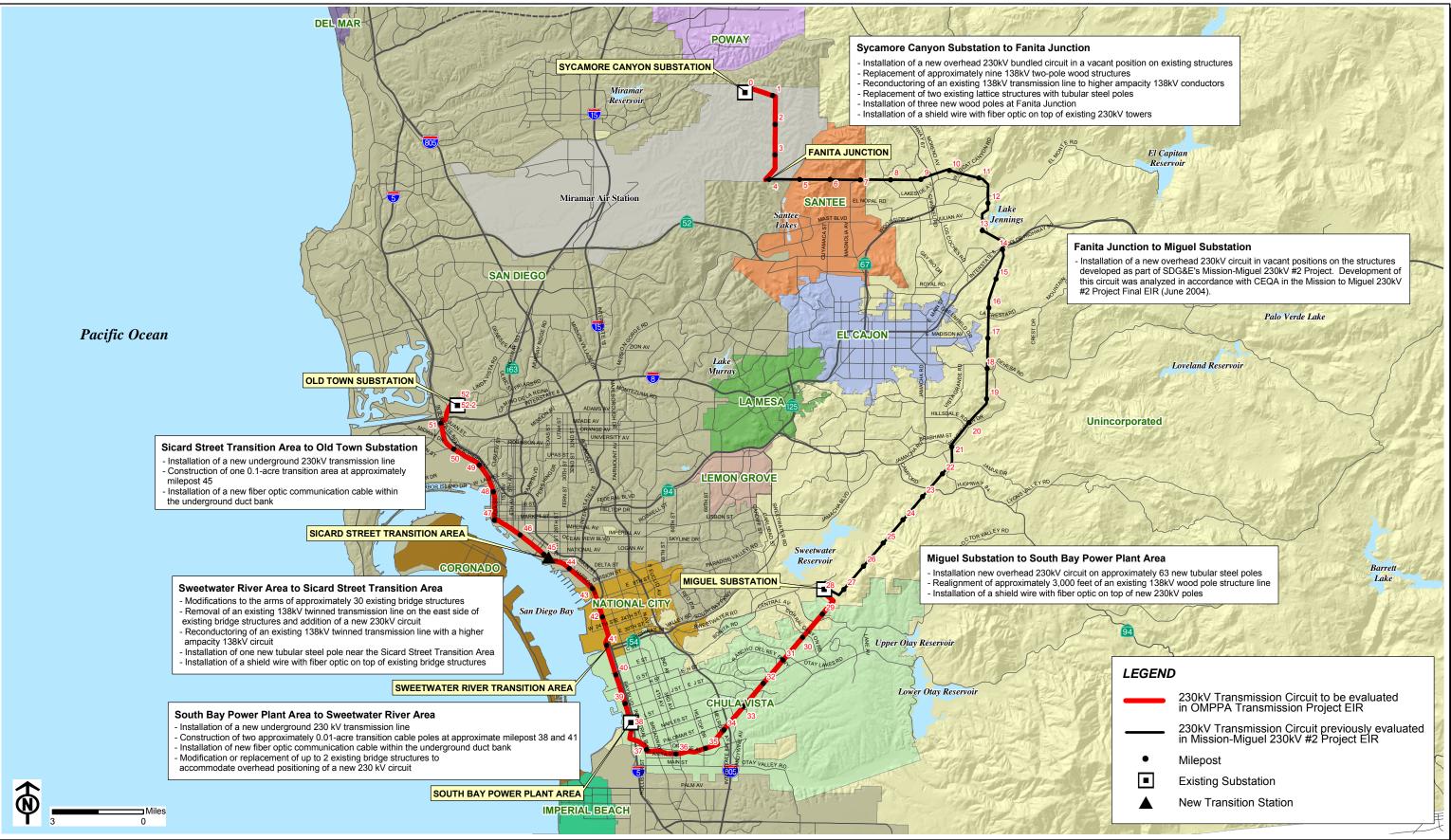
Section B describes SDG&E's proposed OMPPA Transmission Project (Proposed Project). Detailed descriptions of project construction and operation provide a common understanding of the project parameters considered in Section D, where environmental impacts are evaluated. Section B.2 describes the Proposed Project and its components. Section B.3 describes the construction activities associated with the Proposed Project, Section B.4 describes the operation and maintenance procedures, and Section B.5 describes measures proposed by SDG&E, which are designed to reduce or avoid potential environmental impacts associated with project construction, operation and maintenance.

The proposed OMPPA Transmission Project includes a new 230 kV electric transmission line that would connect the OMGP, currently under construction, near SDG&E's existing Miguel Substation, with SDG&E's existing Sycamore Canyon Substation and a second 230 kV electric transmission line that would connect the OMGP to SDG&E's Old Town Substation. Primary project components include the two new 230 kV electric transmission lines, two new transition cable poles, a new transition station and modifications to the existing Sycamore Canyon, Miguel and Old Town substations. The combined length of the new 230 kV electric transmission line is approximately 52 miles and crosses through the cities of San Diego, Santee, Chula Vista and National City, as well as unincorporated areas of San Diego County and federal lands (see *Figures B-1* and *B-2*).

As part of the OMPPA Transmission Project, SDG&E proposes to install a new overhead second transmission line between Fanita Junction and the Miguel Substation in vacant positions on the 230 kV transmission structures approved as part of SDG&E's Miguel-Mission 230 kV #2 Project (see *Figure B-2*). The Miguel-Mission 230 kV #2 Project is a separate project that was reviewed by the CPUC under a separate CPNC proceeding (A.O2-07-022) and EIR analysis. As part of the EIR analysis conducted for the Miguel-Mission 230 kV #2 Project, the construction and operation of the second line between Fanita Junction and the Miguel Substation, proposed as part of the OMPPA Transmission Project, was analyzed in accordance with the criteria, standards and procedures of CEQA, because of its direct connection with the proposed Miguel-Mission 230 kV #2 project and likelihood of being proposed in the future. On July 8, 2004, the Commission certified the Miguel-Mission 230 kV #2 Project Final EIR including analysis of the second 230 kV line between Fanita Junction and operation of the second line between Fanita Junction and operation of the second line between Fanita Junction and the Miguel Substation. Therefore, while CPUC approval of the Proposed Project would include construction and operation of the second line between Fanita Junction and the Miguel Substation. Therefore, while CPUC approval of the Proposed Project would include construction and operation of the second line between Fanita Junction and the Miguel Substation, no further analysis of this segment will be evaluated in this EIR.



OMPPA Transmission Project EIR **Regional Map** figure B-1



BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project EIR Vicinity Map



The new 230 kV electric transmission line to be evaluated in this EIR includes approximately 18 miles of new overhead 230 kV electric transmission line to be located within existing SDG&E ROW and ten miles of new 230 kV cable to be located underground primarily within SDG&E ROW and City of San Diego roadways. The new 230 kV electric transmission line and other primary project components to be evaluated in this EIR would cross the cities of San Diego, Chula Vista, National City and unincorporated areas in the eastern portion of San Diego County, as well as military lands (see *Figures B-1* and *B-2*). The reconductor of approximately four miles of an existing 138 kV transmission line within existing SDG&E ROW between SDG&E's Sycamore Canyon Substation and Fanita Junction is also to be evaluated in this EIR.

B.2 Project Description

B.2.1 Project Location

As shown in *Figures B-1* and *B-2*, the transmission line route would traverse the cities of San Diego, Chula Vista, National City and unincorporated areas in the eastern portion of San Diego County as well as cross the U.S. Marine Corps Air Station Miramar (MCAS), U.S. Naval Station San Diego, and the Sweetwater Marsh National Wildlife Refuge.

From Sycamore Canyon Substation to Fanita Junction and from Miguel Substation the Sicard Street Transition Area, the overhead transmission line as well as underground segment would be located primarily within existing SDG&E ROW. From the Sicard Street Transition Area to the Old Town Substation, the transmission line would be located underground within the following City of San Diego Streets: Harbor Drive, Pacific Highway, Couts Street, Kurtz Street, Greenwood Street, Linda Vista Road, Mildred Street, and Benicia Street where the transmission line would connect to the Old Town Substation.

B.2.2 Project Components and Route Descriptions

The Proposed Project consists of the installation of two new 230 kV overhead transmission lines and a new 230 kV underground cable, replacing existing lines with higher voltage lines and replacing existing lines with new lines with the same voltage, removal of existing transmission structures, replacing existing transmission structures, installation of one new overhead to underground transition station and two new overhead to underground transition poles, modifications at three existing substations, and installation of a fiber optic line for communication requirements within the electric system. The Proposed Project evaluated in this EIR has been divided into five segments. *Table B-1* provides an overview of the components of each segment and the substation modifications. *Figures B-2* and *B-3*, *Project Maps 1*, *2a* through 2c, *3*, *4*, *5a* and *5b*, illustrate each of the five project segments evaluated in this EIR. *Appendix 1* provides new structure heights for each proposed new structure along with detailed aerial photographs at a scale of 1" = 300 feet with existing pole and tower locations, and Proposed Project components.

TABLE B-1 SUMMARY OF PROJECT COMPONENTS ¹						
Transmission System Modifications						
Segment	Approximate Length (Miles)	Location	Project Components			
1. Sycamore Canyon Substation to Fanita Junction	4.0	U.S. MCAS Miramar, City of San Diego (mile-posts 0 to 4) (see Figure B-3, Project Map 1)	 Installation of a new overhead 230 kV electric transmission line in a vacant position on existing structures within SDG&E's existing ROW Replacement of approximately nine 138 kV two-pole wood structures with substantially the same wood structures Reconductoring of an existing 138 kV transmission line to higher ampacity 138 kV conductors Replacement of two existing lattice towers with two tubular steel poles at Fanita Junction Installation of three new wood poles at Fanita Junction Installation of a shield wire with fiber optic line on top of the existing 230 kV towers 			
2. Miguel Substation to South Bay Power Plant Area	10.0	City of Chula Vista, Unincorporated areas of San Diego County (mile-posts 28 to 38) (see <i>Figure</i> <i>B-3, Project Map 2a,</i> <i>2b, and 2c</i>)	 Installation of a new overhead 230 kV electric transmission line on approximately 63 new tubular steel poles within SDG&E's existing ROW parallel to existing lattice towers Realignment of approximately 3,000 feet of an existing 138 kV wood pole structure line to make room for the new tubular steel poles into the Miguel Substation Installation of a shield wire with fiber optic line on top of the new 230 kV poles 			
3. South Bay Power Plant Area to Sweetwater River Transition Area	3.0	City of Chula Vista (mile-posts 38 to 41) (see <i>Figure B-3,</i> <i>Project Map 3</i>)	 Installation of a new underground 230 kV transmission line primarily within existing ROW. Construction of two approximately 0.01-acre transition cable poles at approximate mile-post 38 and mile-post 41. Installation of new fiber optic line communication cable within the underground duct bank. Modification or replacement of up to 2 existing bridge structures south of the Sweetwater River to accommodate overhead positioning of a new 230 kV electric transmission line. 			
4. Sweetwater River Transition Area to Sicard Street Transition Area	4.0	National City, City of San Diego, U.S. Naval Station-San Diego (mile-posts 41 to 45) (see <i>Figure B-</i> <i>3, Project Map 4</i>)	 Modifications to the arms of approximately 30 existing lattice steel bridge structures to accommodate a new 230 kV electric transmission line. Removal of an existing 138 kV twinned (one on each side of the structure) transmission line on the east side of the existing bridge structures and addition of a new 230 kV electric transmission line. 			

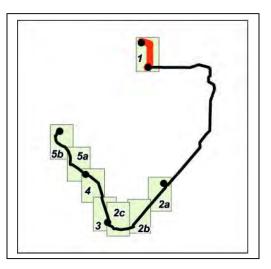
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TABLE B-1 SUMMARY OF PROJECT COMPONENTS ¹							
Transmission System Modifications							
			 Reconductoring of an existing 138 kV twinned transmission line on the west side of the existing bridge structure to accommodate reconfiguration of the existing 138 kV lines. Installation of one tubular steel pole near the Sicard Street Transition Area. Installation of a shield wire with fiber optic line on top of the existing structures. 				
5. Sicard Street Transition Area to Old Town Substation	7.0	City of San Diego, U.S. Marine Corps Army Depot (mile- posts 45 to 52) (see <i>Figure B-3, Project</i> <i>Maps 5a and 5b</i>)	 Construction of one approximately 0.1-acre transition station at approximate mile-post 45 Installation of a new underground 230 kV transmission cable facilities primarily within city streets Installation of a new fiber optic communication cable within the underground duct bank 				
Substation Modifi	cations						
Substation		Location	Project Components				
Sycamore Canyon Substation		ego, U.S. Marine Corps amar (mile-post 0) (see oject Map 1)	 Installation of new 230 kV line breakers and switching equipment Installation of bus and support structures Installation of control, protection, and communications equipment 				
Miguel Substation		d area of San Diego oost 28) (see <i>Figure B-3,</i> a)	 Installation of two 80-foot dead end structures Installation of a 110-foot steel pole Installation of new 230 kV line breakers and switching equipment Installation of bus and support structures Installation of control, protection, and communications equipment 				
Old Town Substation	City of San Diego (mile-post 52) (see Figure B-3, Project Map 4b)		 Installation of new 230 kV line breakers and switching equipment Installation of 230 kV terminators and support structures Termination of the new line from the 230 kV terminators to the disconnects Installation of control, protection, and communications equipment 				

As part of the EIR analysis conducted for the Miguel-Mission 230 kV #2 Project, the construction and operation of the second 230 kV line between Fanita Junction and the Miguel Substation, proposed as part of the OMPPA Transmission Project, was analyzed in accordance with CEQA. Therefore, while CPUC approval of the Proposed Project would include construction and operation of the second line between Fanita Junction and the Miguel Substation, no further analysis of this segment is evaluated in this EIR.

Segment No. 1: Sycamore Canyon Substation to Fanita Junction (mile-posts 0 to 4)

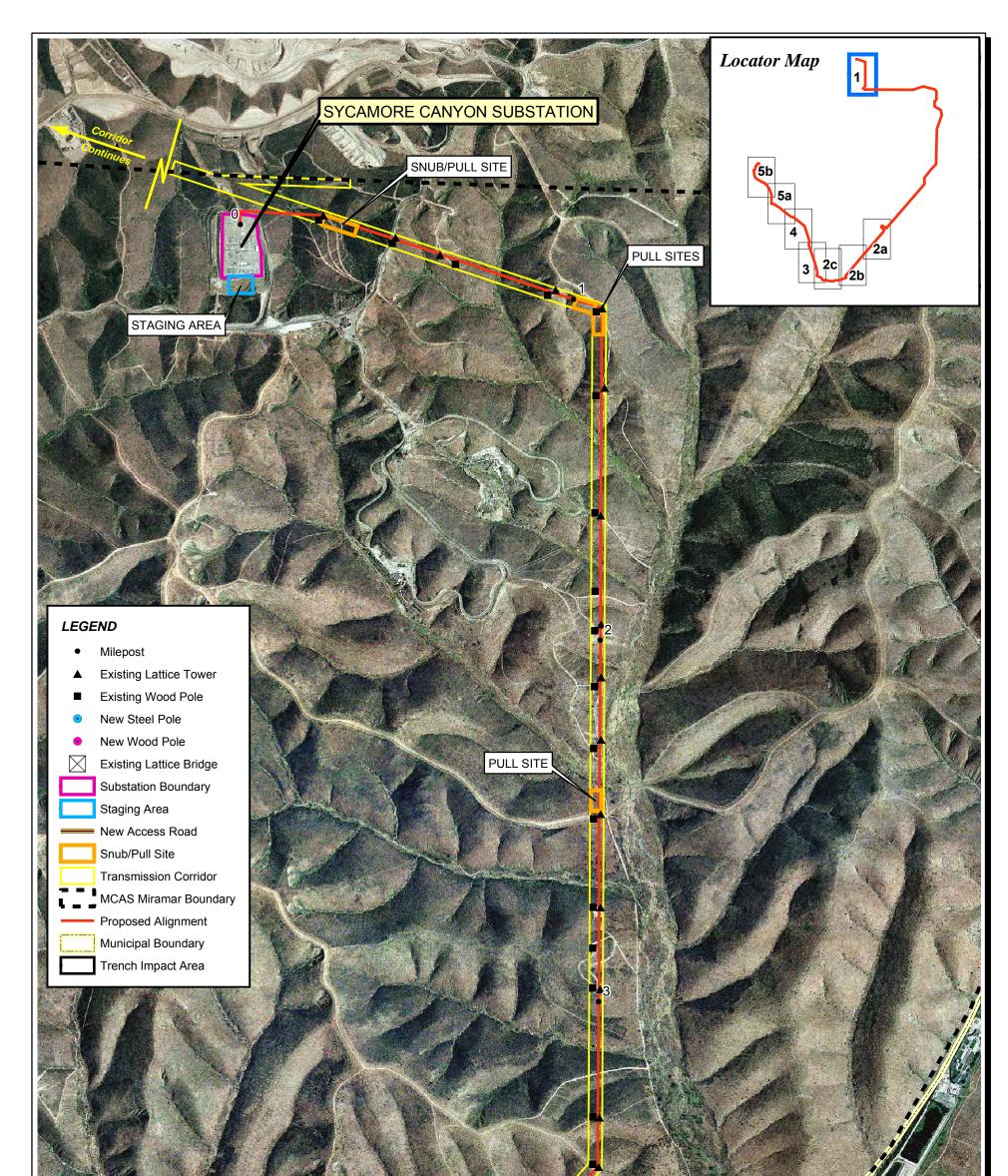
As shown in *Figure B-2* and *Figure B-3*, *Project Map 1*, this segment begins at the Sycamore Canyon Substation located at U.S. MCAS Miramar. From the substation, the segment traverses approximately four miles entirely within SDG&E's existing ROW and terminates at a point known as Fanita Junction, where several transmission lines converge at mile-post 4.

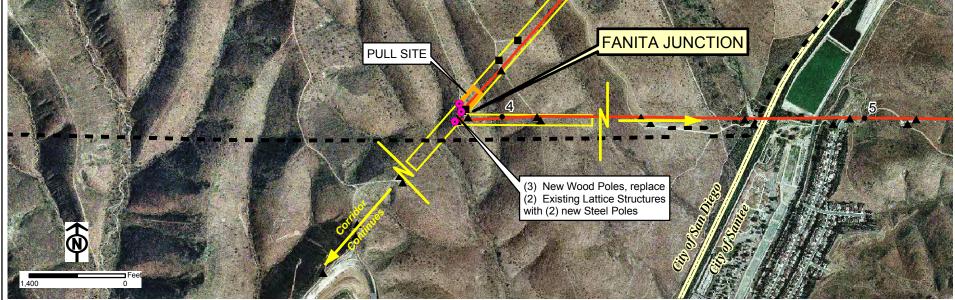


Project components within this segment would involve:

- installing overhead 230 kV electric transmission line in the vacant position on existing 230 kV lattice structures within SDG&E's existing ROW;
- installing a shield wire with fiber optic on top of existing 230 kV lattice structures;
- reconductoring an existing 138 kV transmission line to higher ampacity 138 kV conductors; and
- replacing approximately nine 138 kV two-pole wood structures to meet clearance requirements for the new 138 kV conductors with substantially the same wood structures.

No modifications to the 230 kV existing structures would be required to install the new 230 kV electric transmission line. Nine 138 kV two-pole wood structures would be replaced with substantially the same wood structures to reconductor the 138 kV line with a higher ampacity line. The new 138 kV two-pole structures would be approximately 2 feet in diameter and 75 feet in height. The distance between the two poles would be approximately 15 to 17 feet. Three new wood poles would also be installed at Fanita Junction and two of the existing lattice structures would be replaced with tubular steel poles. The new steel poles would be approximately 160 feet in height and the foundations approximately 9 feet in diameter. *Figure B-4* is a typical drawing of the tubular steel pole structures that would be installed. In addition, the existing shield wire on top of the overhead 230 kV structures will be replaced with a shield wire with fiber optic line. A representative cross-section of this segment is provided in *Figure B-5*.

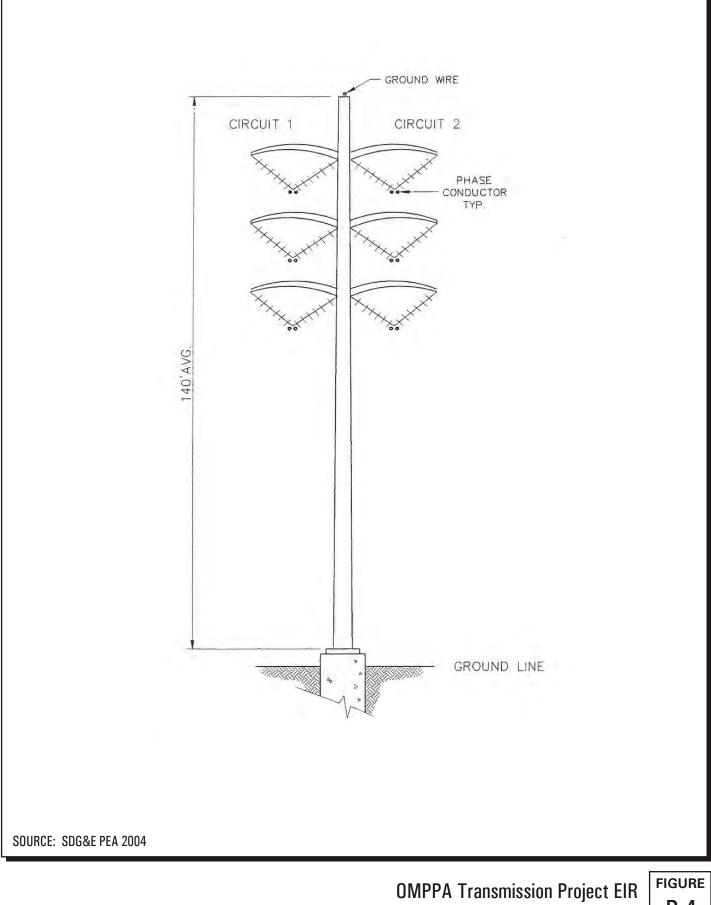




Base Map Source: Aerials Express, Flown May 2004

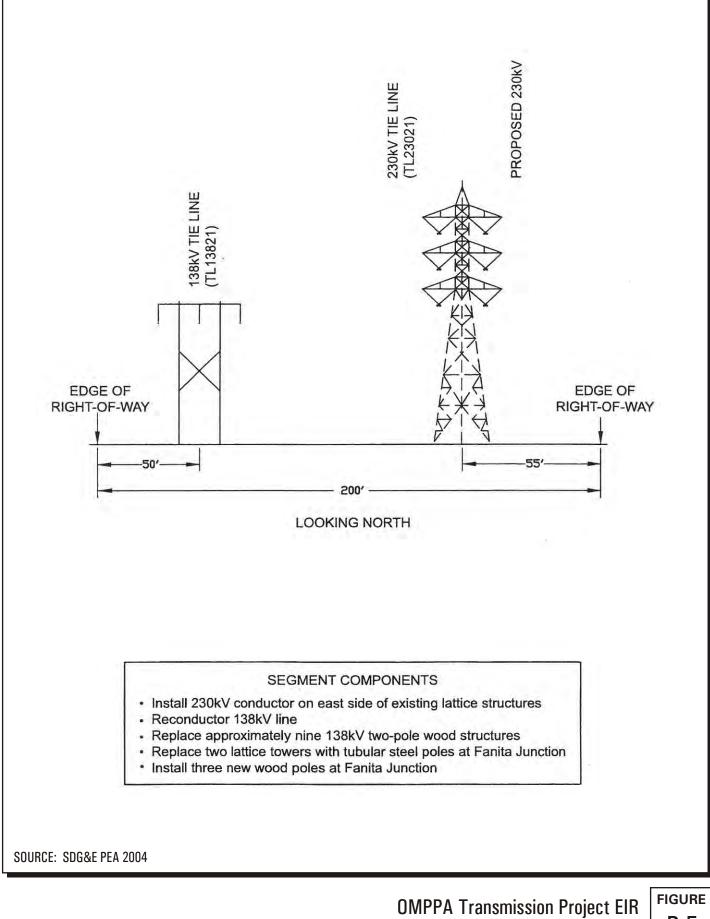
OMPPA Transmission Project EIR Project Map 1 (Sycamore Canyon - Fanita Junction)





Typical Tubular Steel Pole

B-4

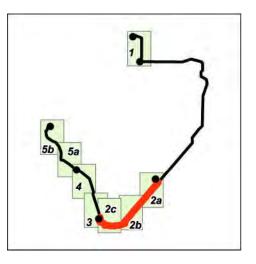


Cross-Section of Sycamore Canyon Substation to Fanita Junction

B-5

<u>Segment No. 2</u>: <u>Miguel Substation to South Bay</u> Power Plant Area (mile-posts 28 to 38)

As shown in *Figure B-2* and *Figure B-3*, *Project Maps 2a, 2b and 2c*, from the Miguel Substation, the route travels southwest within SDG&E's existing ROW in an unincorporated area of the San Diego County before entering the City of Chula Vista near mile-post 30. The route continues in a southwest direction through residential communities in Chula Vista before crossing Interstate 805 (I-805) near mile-post 34. At I-805, the route turns south and then west. The route then turns

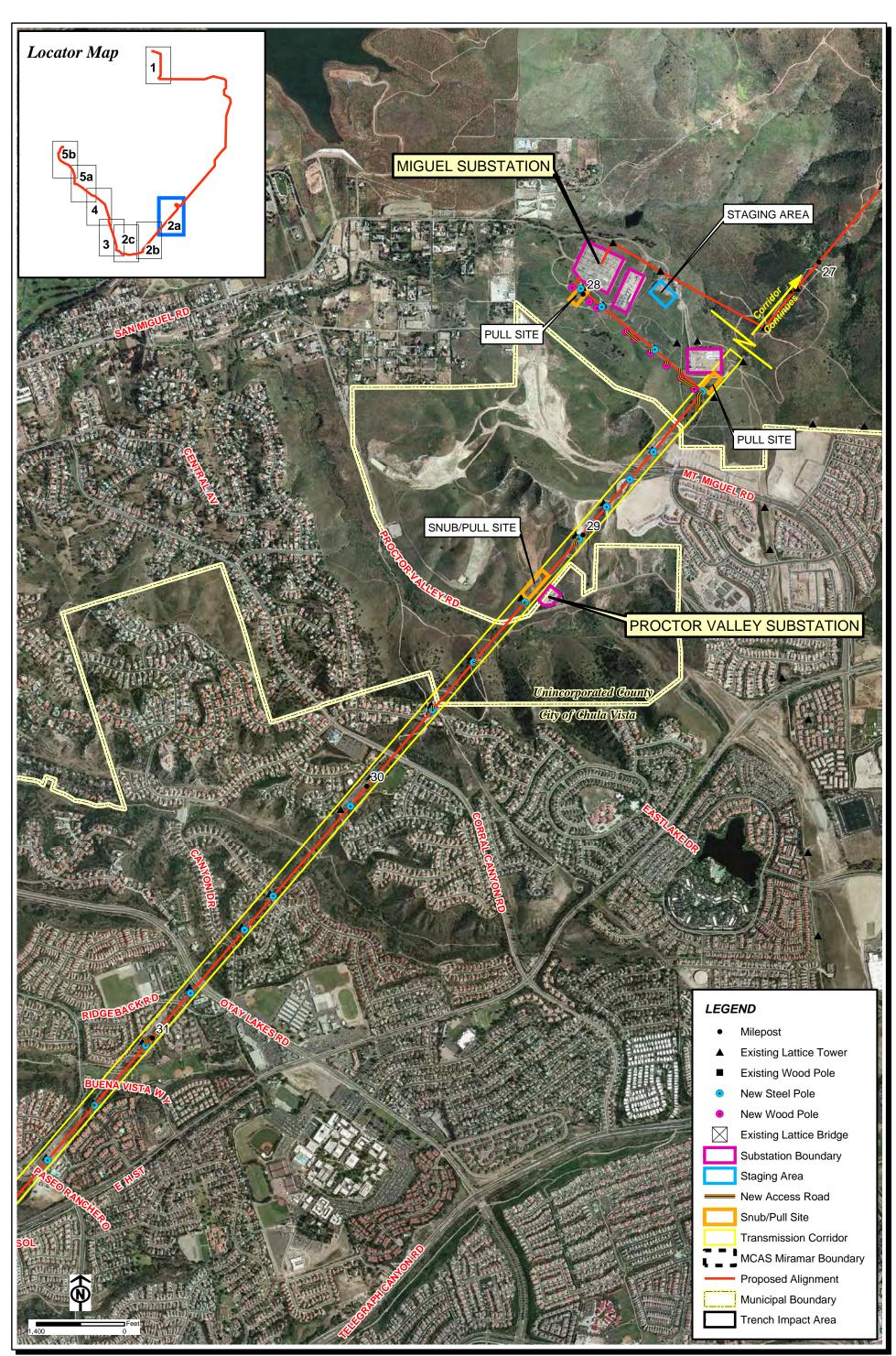


north and northwest and crosses Interstate 5 (I-5) near mile-post 37.5. West of I-5, the route travels north roughly parallel to Bay Boulevard to mile-post 38 east of the South Bay Power Plant.

Project components within this segment would include:

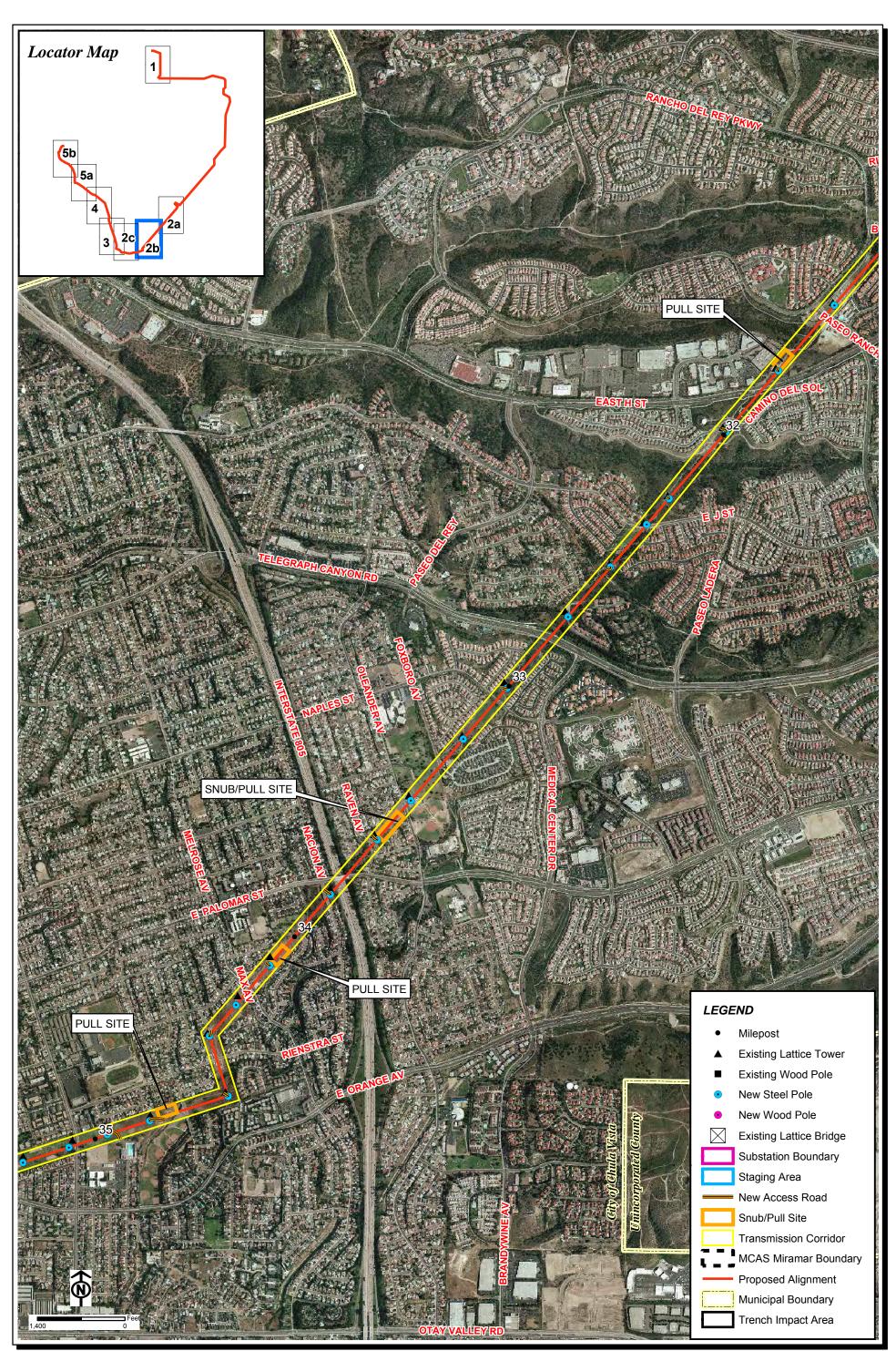
- installing approximately 10 miles of overhead 230 kV electric transmission line on approximately 63 new 230 kV steel poles;
- installing a shield wire with fiber optic on top of the new 230 kV steel poles; and
- realignment of 3,000 feet of existing 138 kV wood pole structures.

The new steel poles would be installed approximately 70 feet south of SGD&E's existing 138 kV lines within SDG&E's ROW. The new steel poles would range in height from 100 feet to 160 feet and have a concrete foundation of approximately 9 feet in diameter. Span lengths would average 1,000 feet. Refer to *Figure B-4* for a typical drawing of a tubular steel pole. Realignment of approximately 3,000 feet of an existing 138 kV wood pole structure line exiting the Miguel Substation would occur within SDG&E ROW to allow for the installation of the new 230 kV tubular steel pole line. In addition, a single overhead shield wire with fiber optic would be installed on top of the structure line. A representative cross-section drawing of this segment is included in *Figure B-6*.



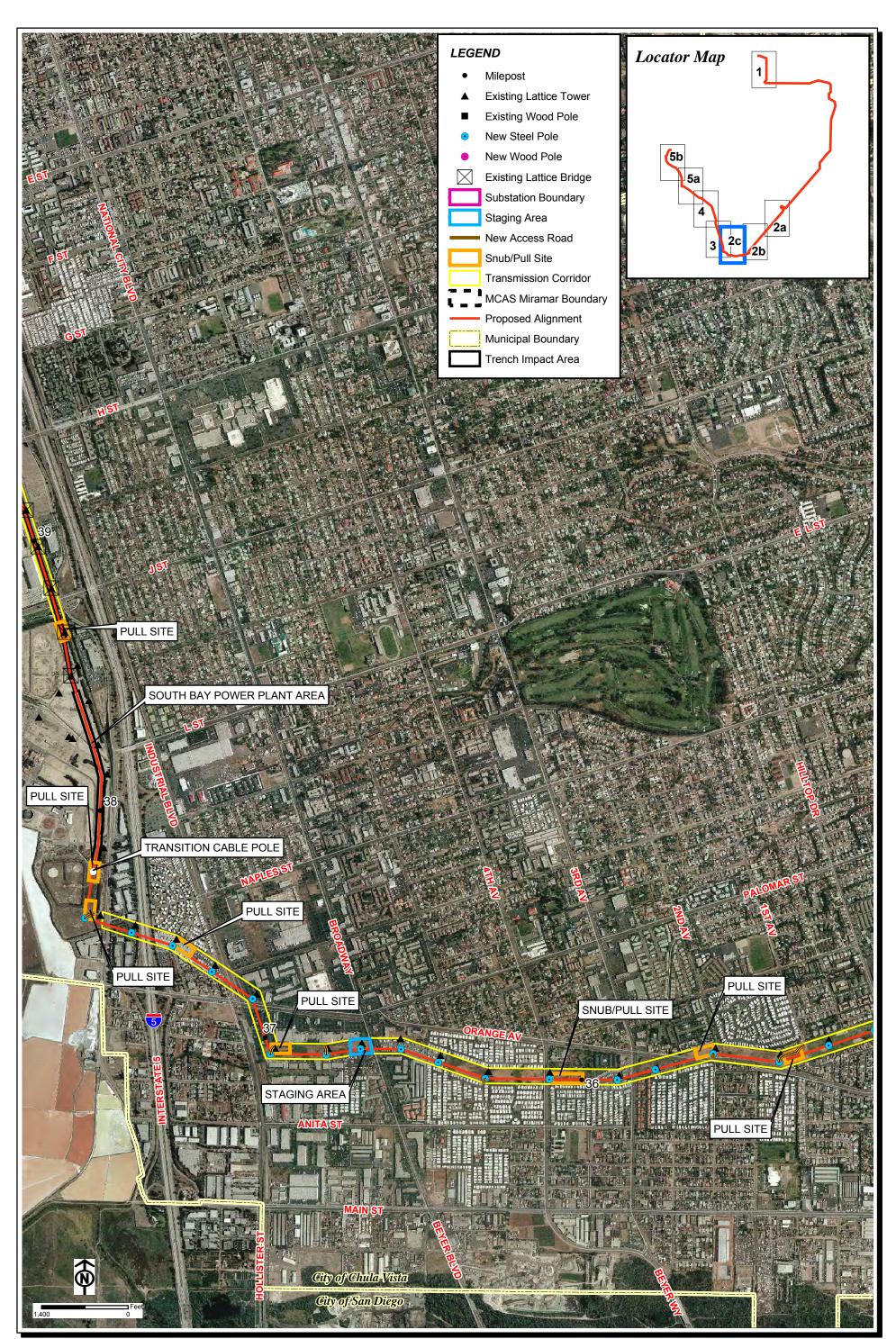
Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR **Project Map 2a (Miguel to South Bay)**



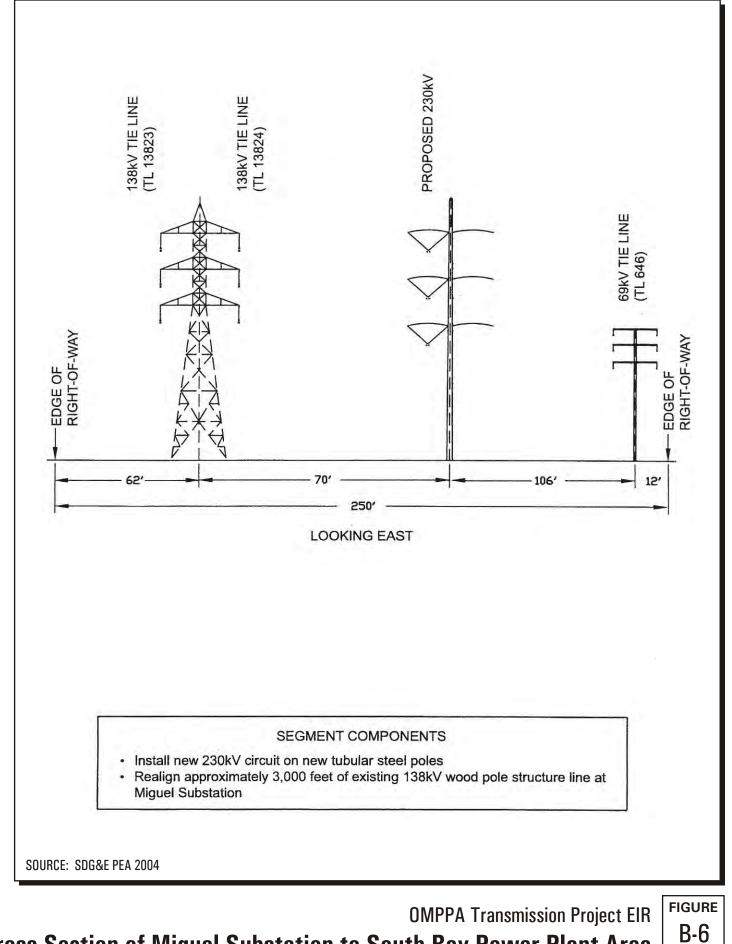
Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR **Project Map 2b (Miguel to South Bay)**FIGURE B-3



Base Map Source: Aerials Express, Flown May 2004

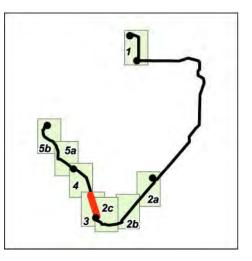
OMPPA Transmission Project EIR Project Map 2c (Miguel to South Bay) FIGURE B-3



Cross-Section of Miguel Substation to South Bay Power Plant Area

<u>Segment No. 3:</u> <u>South Bay Power Plant Area to</u> Sweetwater River Transition Area (mile-post 38 to 41)

As shown in *Figure B-2* and *Figure B-3*, *Project Map 3*, this segment would involve new underground installation of approximately three miles of 230 kV underground cable primarily within SDG&E's existing ROW in mostly commercial and open areas in the City of Chula Vista. Modification or replacement of up to two existing bridge steel lattice tower structures south of the Sweetwater River will be required to allow for an overhead positioning of the new 230 kV line. A



representative cross section of this segment is included in Figure B-7.

Project components within this segment would involve:

- construction of two approximately 0.01-acre transition cable poles at approximate mileposts 38 and 41;
- installation of a new underground 230 kV transmission line primarily within existing ROW;
- installation of a new fiber optic communication line within the underground duct bank; and
- modification or replacement of up to two existing bridge structures south of the Sweetwater River near mile-post 40.8 to accommodate overhead positioning of the new 230 kV electric transmission line.

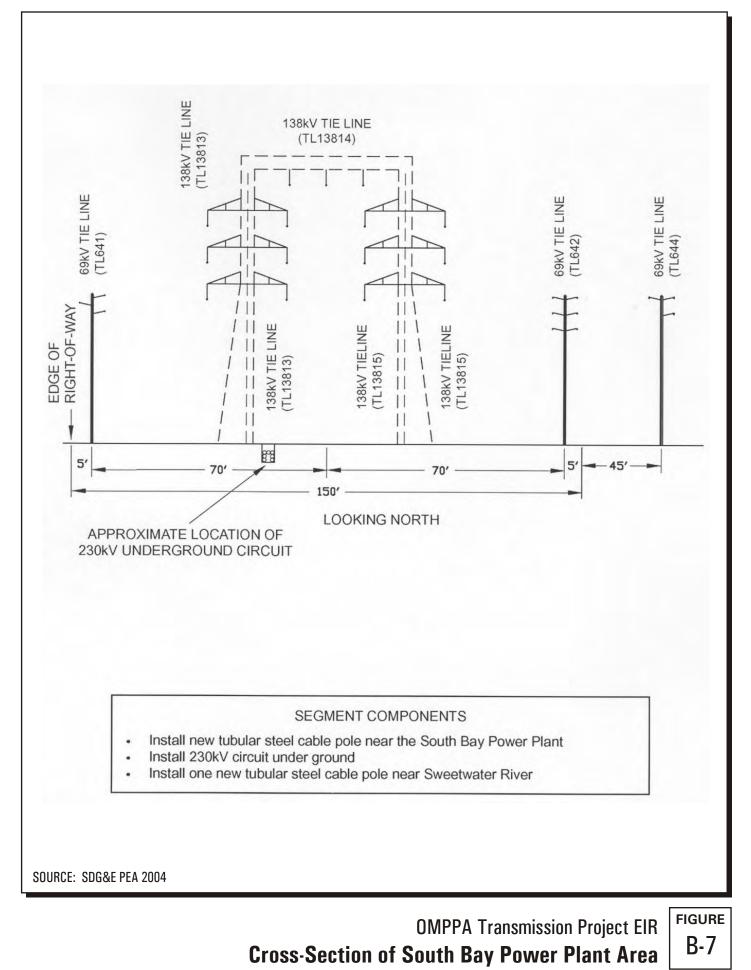
This segment would begin at a new approximately 0.01-acre transition cable pole that would be installed within SDG&E's existing ROW on the west side of Bay Boulevard and on the south side of the South Bay Power Plant near mile-post 38. The transition cable pole would provide the necessary structure to mechanically terminate the overhead conductors and support the underground cable terminators required for each underground cable (two per phase). In addition, the transition cable pole would include surge arrestors to protect the underground cable and provide for the necessary electrical interconnections of this equipment. No new access roads are anticipated to provide access to the cable pole during operations. The transition cable pole will be a tubular steel pole with an approximate height of 150 feet and will have a concrete foundation of approximately 12 feet in diameter. See *Figure B-8* for a typical drawing of a transition cable pole.

From the South Bay Power Plant Area, the route runs north and parallel to the west side of I-5 within SDG&E's existing ROW. There are existing 69 kV and 138 kV overhead structures within this easement. The 230 kV underground alignment is anticipated to be installed between

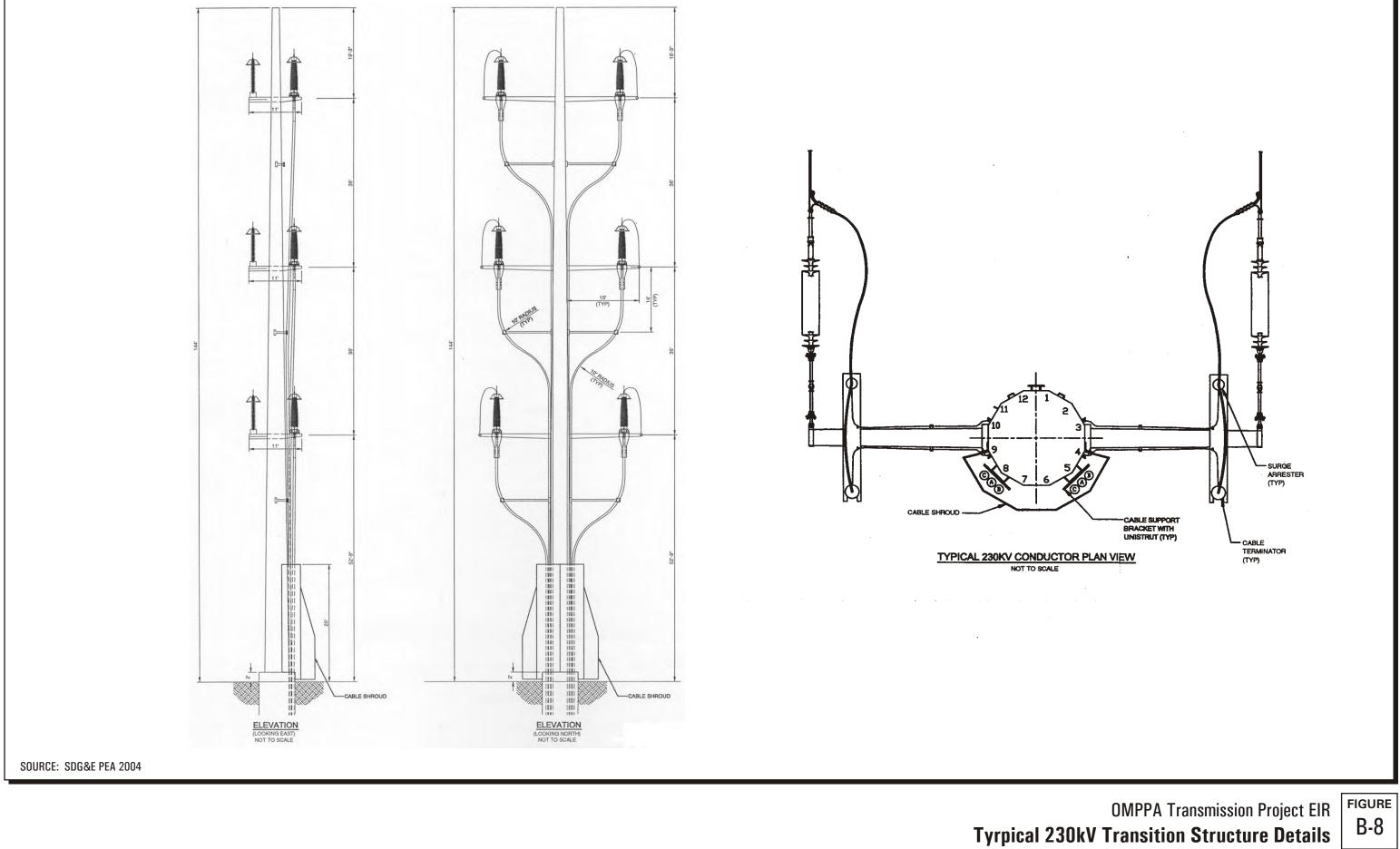


Base Map Source: Aerials Express, Flown May 2004





to Sweetwater River Transition Area



the foundations of the existing 138 kV bridge steel lattice structures. This alignment will continue until it reaches the southern portion of the Sweetwater Marsh National Wildlife Refuge on the south side of the Sweetwater River.

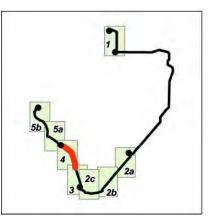
From this location, the route continues in a northern direction under the Sweetwater Marsh National Wildlife Refuge via two 2,500 to 3,000 foot long horizontal drills within SDG&E's existing ROW. The drill surfaces on the northern portion of the Sweetwater Marsh National Wildlife Refuge, south of the Sweetwater River, where it will enter a cable pole to transition from underground to overhead and continue in an overhead alignment across the Sweetwater River to the north, using the existing lattice steel bridge structures. This segment terminates at the proposed cable pole, located in SDG&E's existing ROW on the south side of Sweetwater River and on the west side of I-5.

The 230 kV underground cable system would consist of two XLPE cables per phase that would be installed in a duct bank, comprised of several polyvinyl chloride (PVC) conduits encased in concrete. The duct bank would measure approximately three feet by three feet. The duct bank would also carry a communication conduit for fiber optic communication cables. *Figure B-9* is a typical drawing of a duct bank configuration.

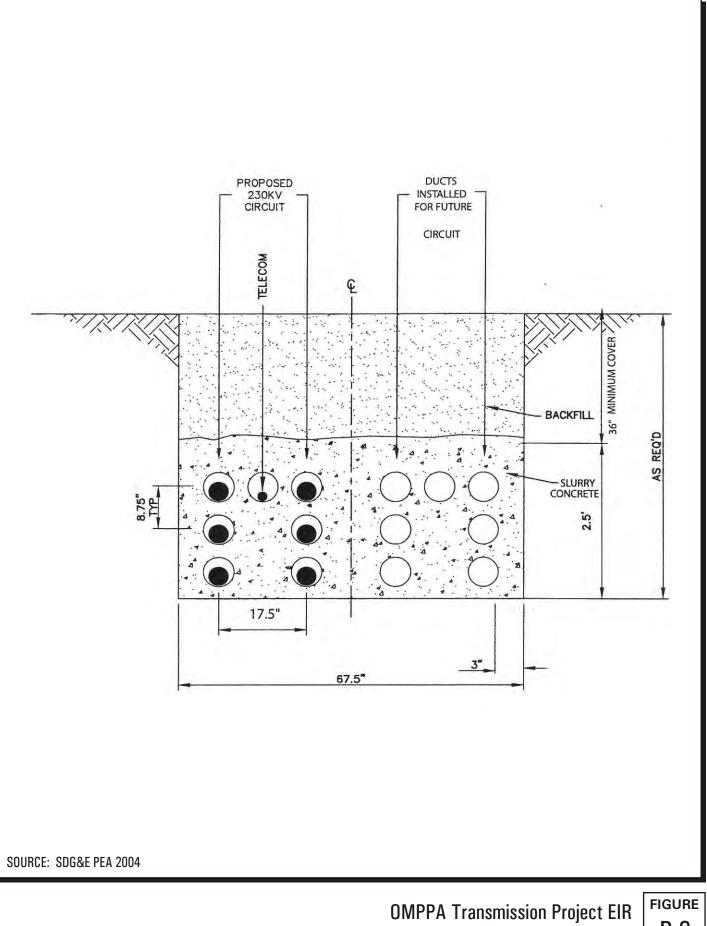
Approximately ten underground concrete splice vaults would be installed in line with the duct bank. Vaults are used to splice together the segments of cable during construction and provide a means for inspecting the integrity of the underground cable system during the operations phase of the line. The vaults are expected to be approximately 24 feet long and 10 feet wide and 8 feet tall (inside dimensions). No portion of the underground vaults would protrude above grade and no vaults would be required for the horizontal drill segment under the Sweetwater Marsh National Wildlife Refuge.

<u>Segment No. 4</u>: <u>Sweetwater River Transition Area to</u> <u>Sicard Street Transition Area (mile-posts 41 to 45)</u>

As shown in *Figure B-2* and *Figure B-3*, *Project Map 4*, this segment is approximately four miles long and begins on the south side of the Sweetwater River just south of mile-post 41 where the line spans the Sweetwater River and crosses over into National City using the existing steel lattice structures. Between mile-posts 41 and 42, the line turns northeast and crosses I-5 and continues north, parallel to the east side of I-5.



Between mile-posts 42 and 44, the line crosses I-5 for the third time near Civic Center Drive, and then veers northwest crossing the Burlington Northern-Santa Fe Railroad before paralleling Harbor Drive and crossing immediately adjacent to U.S. Naval Station San Diego lands within an easement granted to SDG&E by the San Diego and Arizona Eastern Railway Company. This



Typical Duct Bank

B-9



Base Map Source: Aerials Express, Flown May 2004



segment terminates at the proposed overhead to underground transition area just south of milepost 45, located in an existing parking lot near the intersection of Sicard Street and Harbor Drive, which is just south of SDG&E's Main Street Substation.

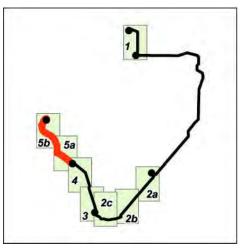
Project components within this segment would involve:

- removing an existing 138 kV twinned line and adding a 230 kV line on the east side of existing lattice tower bridge structures;
- modifying existing lattice tower bridge structure arms to accommodate the 230 kV electric transmission line, and shield wire with fiber optic line;
- installing one tubular steel pole near the Sicard Street Transition Area; and
- reconductoring an existing 138 kV twinned line on the west side of existing lattice tower bridge structures to accommodate reconfiguration of the existing 138 kV lines.

Both sets of 138 kV lines on the west side of the bridge structures would be reconductored to accommodate the reconfiguration of the existing 138 kV lines. On the east side of the existing bridge structures, both sets of 138 kV conductors would be replaced with the new 230 kV line, and the associated connection hardware and insulators would be replaced. To allow for the proper electrical clearances of the higher voltage line, the arms of approximately 30 existing bridge structures would also be modified. See *Figure B-10* for a typical drawing of the steel lattice bridge structure modification showing two alternative designs being evaluated. A shieldwire with fiber optic will also be installed on top of the existing bridge structures. A representative cross-section drawing of this segment is included as *Figure B-11*.

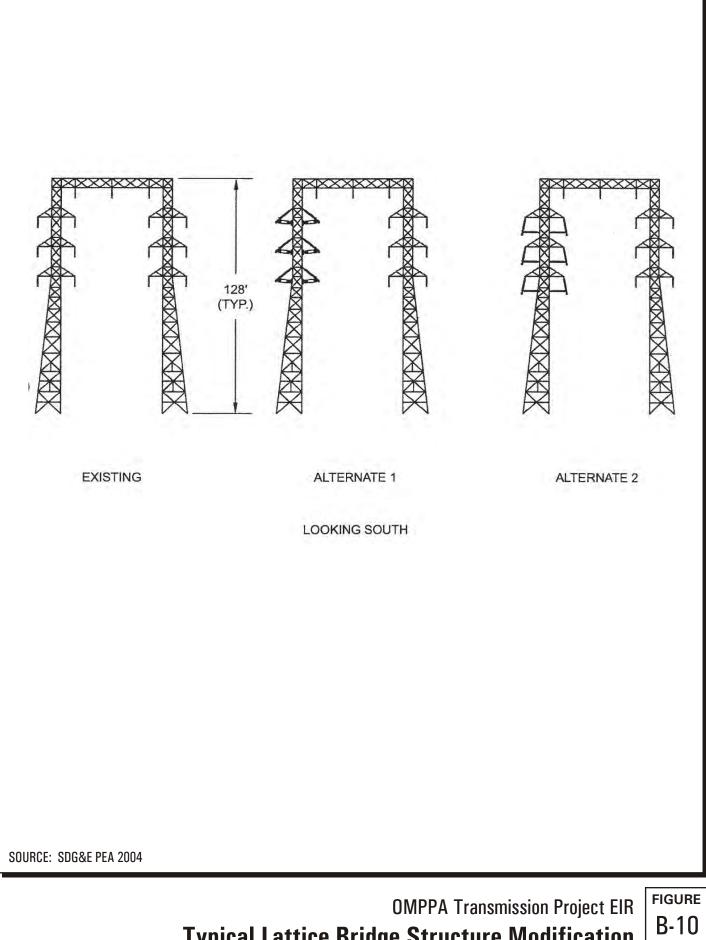
Segment No. 5: Sicard Street Transition Area to Old Town Substation (mile-post 45 to 52)

As shown in *Figure B-2* and *Figure B-3*, *Project Maps 5a and 5b*, the Sicard Street Transition Area to Old Town Substation segment would involve a new underground installation of approximately seven miles of 230 kV cable primarily within city streets in mostly commercial areas in the City of San Diego. The segment begins at a new, approximately 0.1-acre, transition station that would be

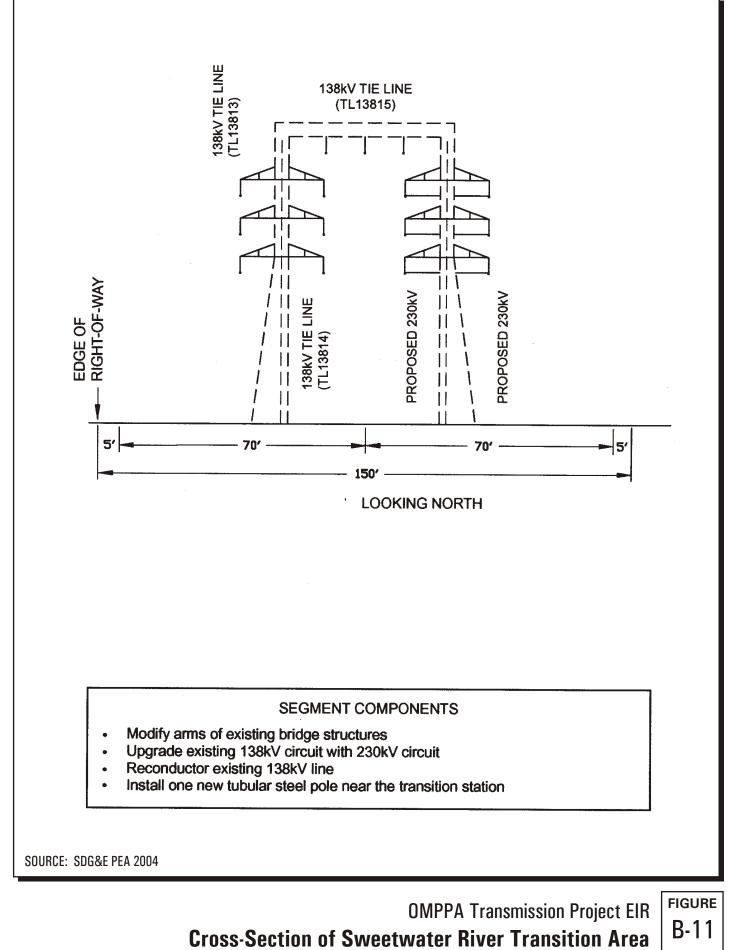


installed in a parking lot at the intersection of Sicard Street and Harbor Drive near mile-post 45.

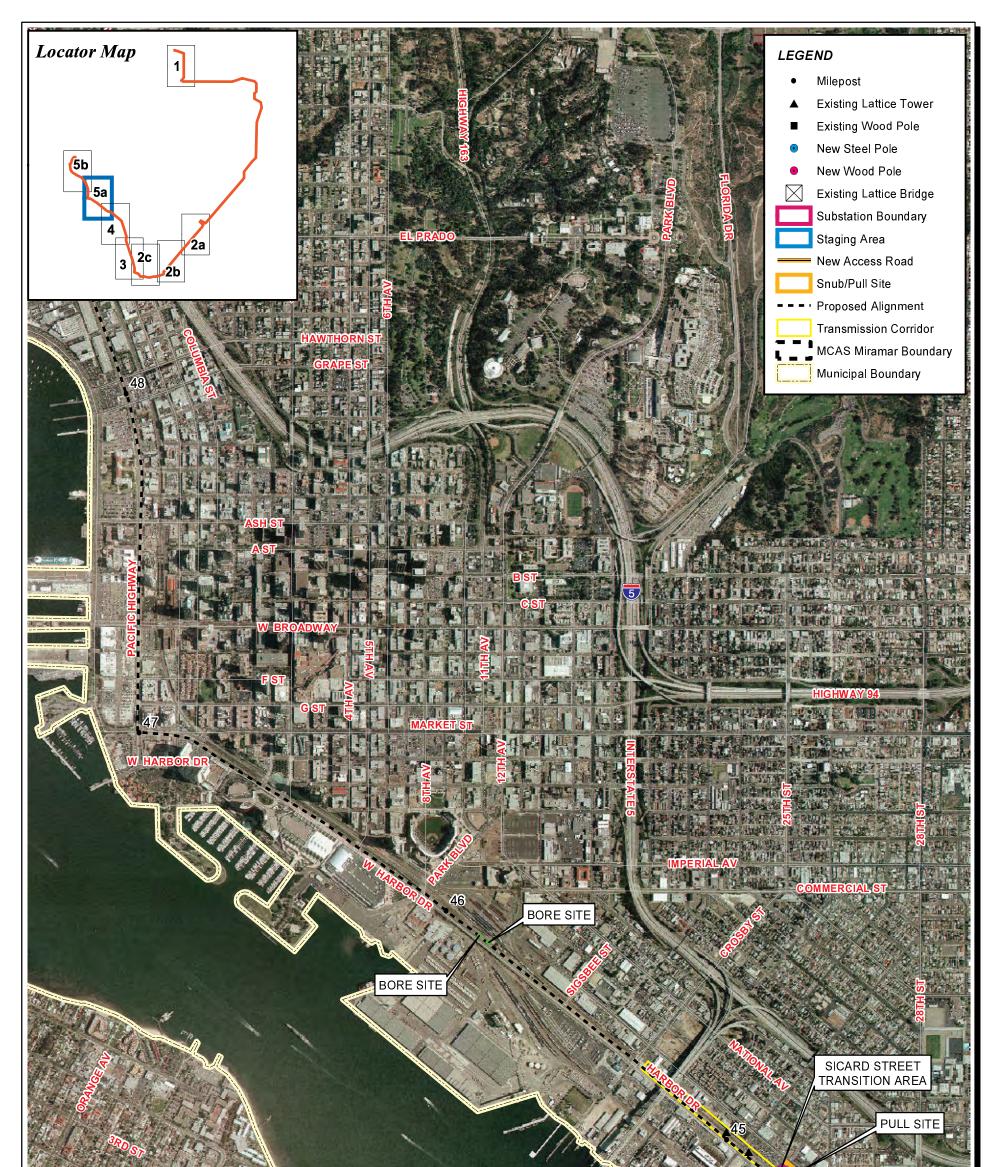
From the transition area between mile-posts 45 and 47, the route turns west, crossing under the San Diego Trolley tracks, and then turns north onto Harbor Drive. The route heads northwest on Harbor Drive, crossing under Highway 75 (San Diego Coronado Bridge) and a railway track and



Typical Lattice Bridge Structure Modification



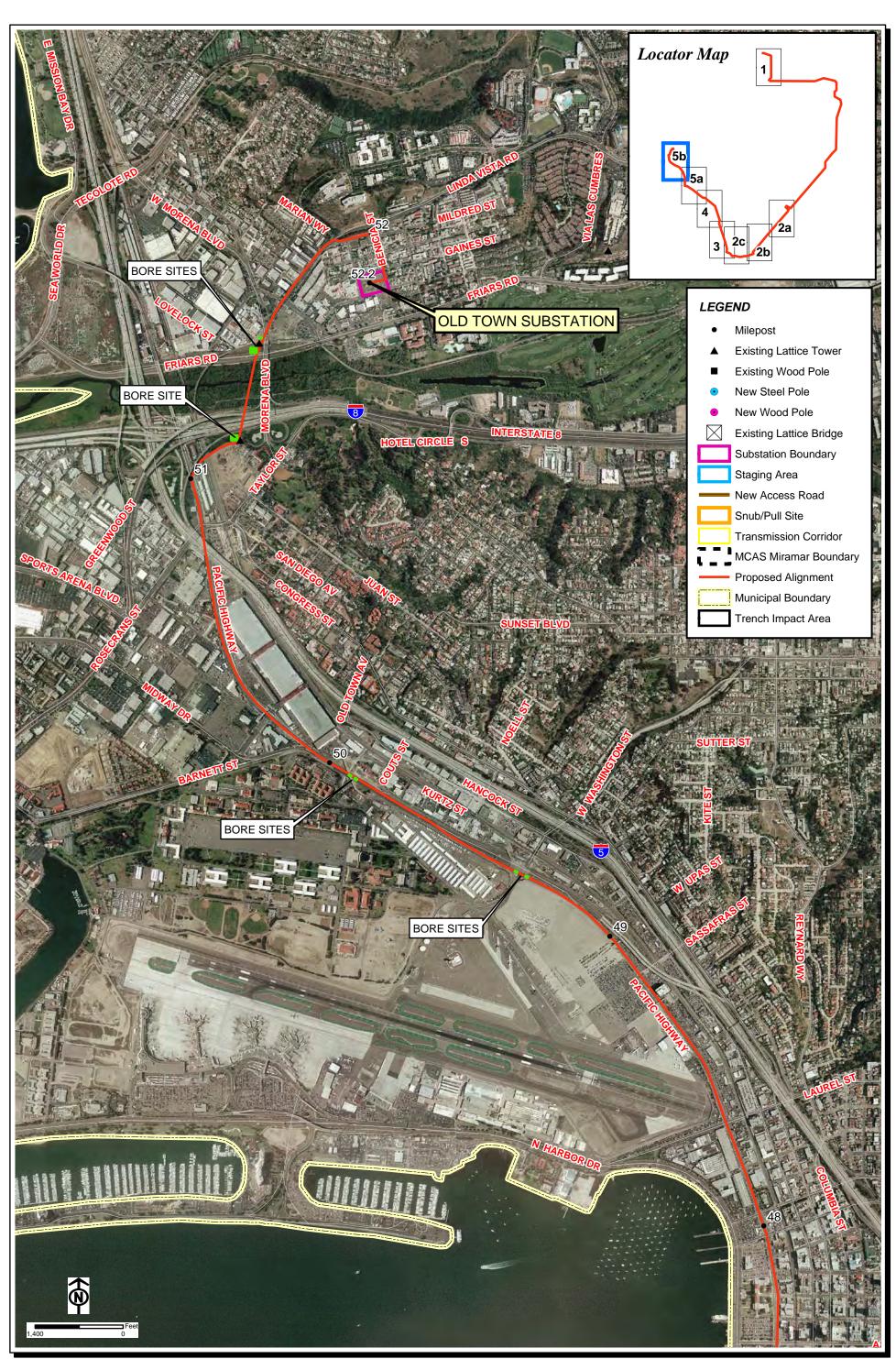
to Sicard Street Transition Area





SOURCE: Aerials Express - Flown May 2004, SANDAG 2003, SDG&E 2004, Thomas Bros. 2002, Site Reconnaisance - October 2004





Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR Project Map 5b (Sicard to Oldtown)



then turns north onto Pacific Highway at mile-post 47. From mile-posts 47 to 51, the route continues along Pacific Highway and crosses another set of railroad tracks before reaching Caltrans property. From the Caltrans property between mile-posts 51 and 52, the route continues under the San Diego Trolley tracks, I-8, the San Diego River, Friars Road, and a railway via a 2,000 to 3,000-foot-long directional drill within SDG&E's existing ROW. The drill surfaces on Greenwood Street next to another SDG&E tower and continues northeast onto Linda Vista Road. The route then turns east on Mildred Street, and south at Benicia Street until it eventually turns west into the Old Town Substation at mile-post 52.2.

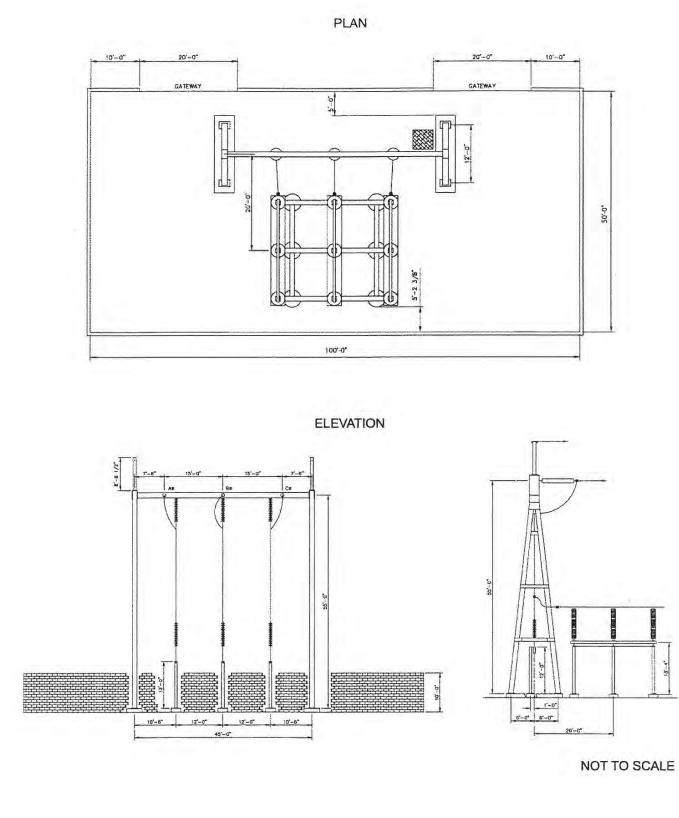
Project components within this segment would involve:

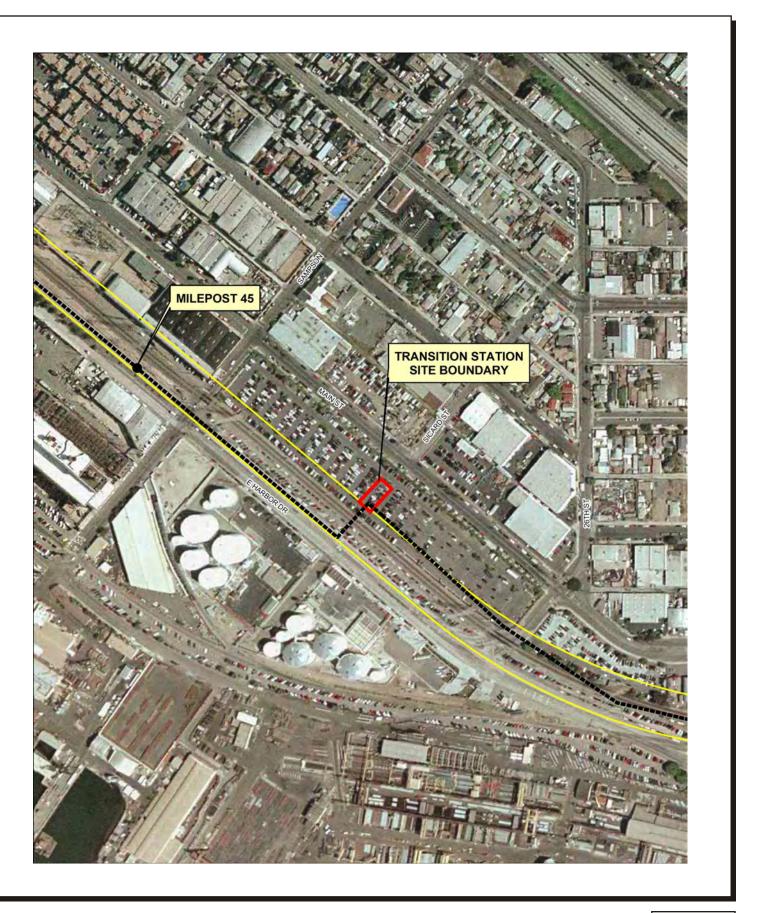
- construction of one approximately 0.1-acre transition station at approximate mile-post 45;
- installation of a new underground 230 kV transmission line primarily within city streets; and
- installation of new fiber optic communication cable within the underground duct bank.

The transition station would provide the necessary structure to mechanically terminate the overhead conductors and support the underground cable terminators required for each underground cable (two per phase). In addition, the transition station would include surge arrestors to protect the underground cable and provide for the necessary electrical interconnections of this equipment. Exterior lighting would be installed on each wall at the transition station. The lights will only be used in the event of an emergency or as needed during operation activities. No new access roads will be required to provide access to the station during operations. *Figure B-12* provides a typical drawing of a transition station.

The 230 kV underground cable system would consist of two cables per phase that would be installed in a duct bank, comprised of several polyvinyl chloride (PVC) conduits encased in concrete. The duct bank would measure approximately three feet by six feet. The duct bank would also carry a communication conduit for fiber optic cables. *Figure B-9* is a typical drawing of a duct bank configuration.

Approximately 48 underground concrete splice vaults (two vaults at every splice joint location) would be installed in line with the duct bank. Vaults are used to splice together the segments of cable during construction and provide a means for inspecting the integrity of the underground cable system during the operations phase of the line. The vaults are expected to be approximately 24 feet long and 10 feet wide and 8 feet tall (inside dimensions). No portion of the underground vaults would protrude above grade. The vaults would be spaced approximately 1,500 to 2,000 feet apart.





SOURCE: SDG&E PEA 2004

OMPPA Transmission Project EIR
Typical Transition Station

figure B-12

Substation Modification

The project also includes modifications to three substations that would service this line to accommodate the new 230 kV double-line. The modifications planned at each substation are described below.

Sycamore Canyon Substation: To accommodate the 230 kV connection into the Sycamore Canyon Substation, SDG&E would extend the 230 kV south bus structure by installing one bus dead end structure approximately 55 feet in height and stringing the bus. SDG&E would install 230 kV disconnect switches and 230 kV line breakers, terminate the new conductors on the existing steel dead end structure, and install associated controls and relays. As shown in *Figure B-13*, all of the proposed modifications would take place within the existing substation fence line. See *Figure B-2* and *Figure B-3*, *Project Map 1*.

Miguel Substation: Modifications at the Miguel Substation entail changes to two lines that would be coming into the substation from the OMGP Switchyard to accommodate the new 230 kV line. As shown in *Figure B-14*, all of the proposed modifications would take place within the existing substation fenceline. See *Figure B-2* and *Figure B-3*, *Project Map 2a*.

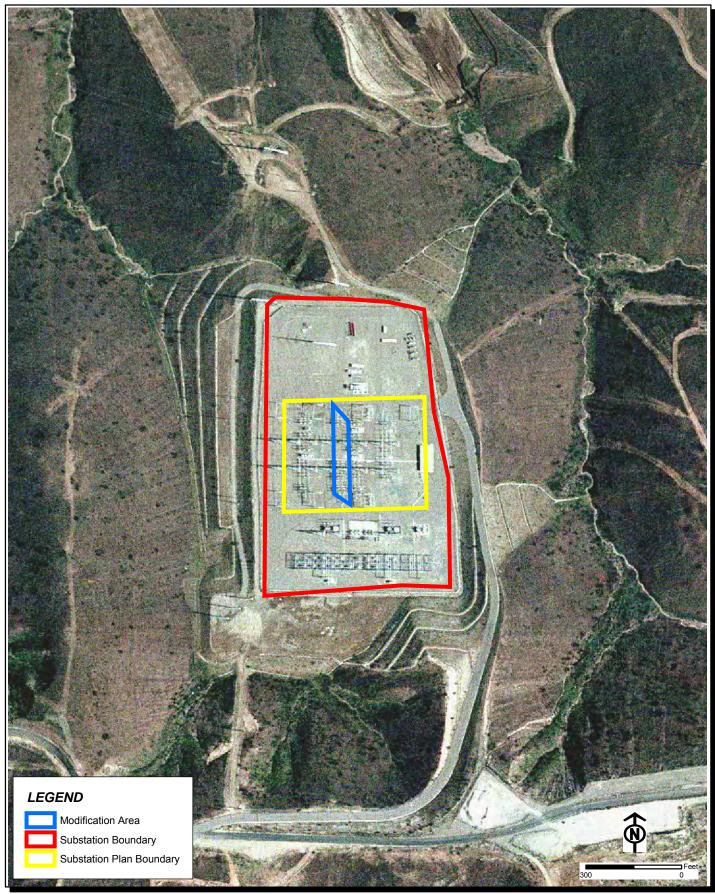
For the Old Town line terminal, SDG&E would install 230 kV disconnect switches, 230 kV line breakers, and associated controls and relays. SDG&E also plans to install two new bays of approximately 80-foot-tall dead end structures.

For the Sycamore Canyon line terminal, SDG&E will install a 110-foot steel pole, 230 kV disconnect, 230 kV line breakers, and associated controls and relays.

Old Town Substation: At the Old Town Substation, 230 kV disconnect switches, 230 kV line breakers, and 230 kV underground terminators and support structures will be installed to accommodate the new line. SDG&E will also replace the 230 kV bus conductors and install associated controls and relays. As shown in *Figure B-15*, all of the proposed modifications would take place within the existing substation fenceline. See *Figure B-2* and *Figure B-3*, *Project Map 5b*.

B.2.3 Permanent Land Requirements

Approximately ten acres would be permanently occupied by new project facilities (i.e. access roads, structures) almost entirely within SDG&E ROW (ROW), as described in this subsection.

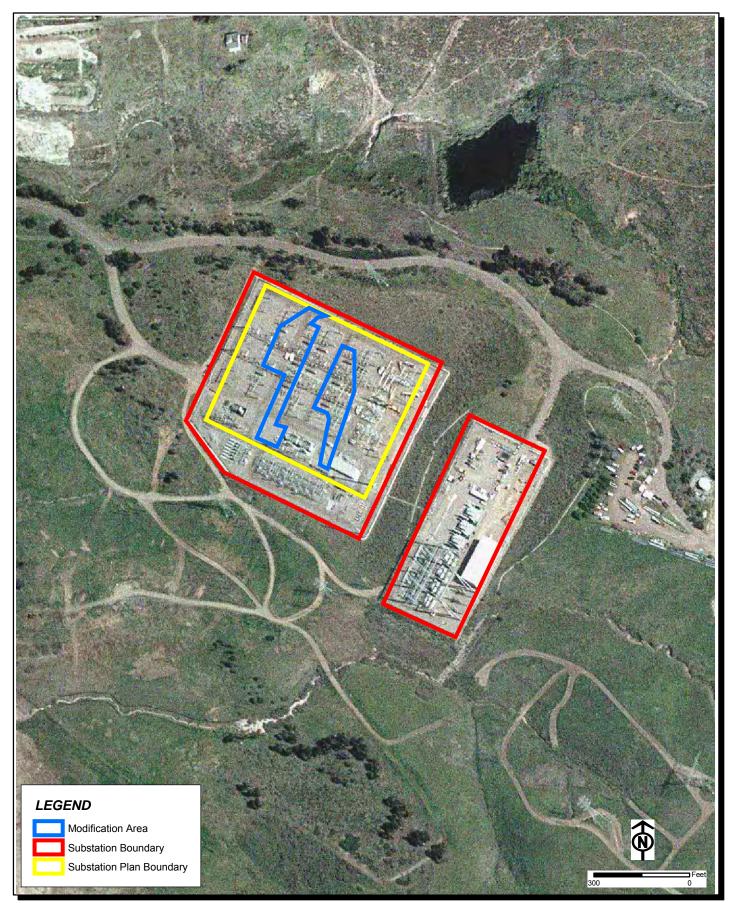


Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR Sycamore Canyon Substation Modifcation Map

FIGURE

B-13



Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR Miguel Substation Modifcation Map FIGURE

B-14



Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR
Old Town Substation Modifcation Map



Permanent Access Roads

As shown in *Figure B-3*, *Project Maps 2a*, *2b and 2c*, as well as *Appendix 1*, *Maps 5 through 16*, new permanent access roads and spur roads are proposed along the Miguel to South Bay segment. These roads will primarily be extensions of existing roads or spur roads that would mainly be constructed within the existing ROW. Access roads would generally be 12 feet wide on straight sections and 15 feet wide at curves to safely allow movement of construction equipment and vehicles.

These new access roads would be left in place once construction is complete to provide access to the new 230 kV line for maintenance and repair purposes. Gates would be installed where feasible at fenced property lines to restrict general vehicular access to the ROW. The total linear acreage impact of these roads would be approximately 4.5 acres.

Permanent ROW

With the exception of the Sweetwater River to Sicard Street segment, the existing ROW for the overhead segments ranges from approximately 150 to 250 feet wide and is adequate to facilitate construction of the overhead portion of the project. The existing ROW for the Sweetwater River to Sicard Street segment is approximately 100 to 150 feet wide and is adequate to facilitate reconductoring activities. It is anticipated that approximately 10 feet of additional easement width may be necessary at approximately 12 dead end structures located within the Sweetwater River to Sicard Street Project segment, to accommodate the proposed tower modifications for the 230 kV line on this segment.

No more than a 40-foot-wide ROW would be required to construct the underground segment of the route. As described in *Section B.2.2, Project Components and Route Descriptions,* the majority of this ROW would be located within SDG&E ROW located in the City of Chula Vista and City of San Diego roadways. For the underground segment between South Bay Power Plant and the Sweetwater River, SDG&E will require new underground easement rights between mileposts 39 and 40 of no more than 40 feet wide where only overhead rights may currently exist. For the Sicard Street Transition Area to the Old Town Substation, the underground segment would be located in franchise position with SDG&E pursuing a joint use type agreement with the City of San Diego and thus no additional easement would be necessary. Wherever the project crosses private property (not within public roadways and outside franchise easements) along the underground segment, SDG&E would acquire a 40-foot-wide easement to accommodate the installation of both the transmission line trench and associated vault facilities and to protect the line from unintentional excavation damage.

New Transmission Structures

The project would involve the installation of 67 new transmission structures on the Sycamore to Fanita, Miguel to South Bay, and Sweetwater River to Sicard Street segments as described in *Section B.2.2 Project Components and Route Descriptions*. The total acreage impact of these new structures would be approximately 5.7 acres within SDG&E ROW. In general, approximately 30 feet in diameter will be left clear around tubular steel poles, 10 feet in diameter will be left clear around each pole at two-pole wood structures.

B.3 Project Construction

This section presents an overview of construction methods typically used for construction of overhead and underground transmission lines and substation modifications. SDG&E's proposed construction schedule is presented in *Section B.3.1*, followed by descriptions of construction activities and methods that are anticipated to be required to construct the Proposed Project (*Sections B.3.2* through *B.3.5*). *Sections B.3.6* and *B.3.7* provide construction employment, materials and staging areas, and methods that SDG&E would employ to prevent interruptions in existing utilities services during construction.

B.3.1 Construction Schedule

The proposed construction would commence after securing all required approvals and permits, would require approximately two years to complete, and would require utilizing multiple crews working simultaneously on different project components. *Table B-2* provides SGD&E's proposed schedule for the OMPPA Transmission Project, as defined in its CPCN application and amended project description. While the schedule will be modified to begin after CPUC approval, this table illustrates the approximate length of each construction phase.

B.3.2 Overhead Transmission Line Construction

Construction of the overhead transmission line and reconductoring would take place within SDG&E's existing ROW. No new temporary construction ROW would be required. A total of approximately 110 acres will be disturbed during construction of the project. Of that total, approximately 100 acres will be temporary disturbance. This disturbance will include areas where structures will be installed, pull and tension sites, splice/snub sites, and bore sites. All of these areas as further described in this subsection would be returned to preconstruction conditions following project completion.

TABLE B-2 PROJECT CONSTRUCTION AS PROPOSED BY SDG&E					
Project Phase	Period				
String new 230 kV Circuit Miguel to Sycamore	June 2005 - June 2006				
Substation modifications Miguel to Sycamore	June 2005 – May 2006				
Energize new line Miguel to Sycamore	June 2006				
Reconductor 138 kV conductor Fanita to Sycamore	January 2006 – April 2006				
Construct access roads	September 2005 – January 2006				
Build new 230 kV pole line Miguel to South Bay	January 2006 – November 2006				
Install underground 230 kV segment South Bay Power Plant to Sweetwater River	January 2006 – June 2006				
Reconfigure existing 138 kV conductor on bridge structures and modify for new 230 kV line Sweetwater River to Sicard	June 2006 – December 2006				
Install underground 230 kV segment Sicard to Old Town	September 2005 – June 2007				
Substation modifications	June 2005 – May 2007				
Total construction	June 2005 – June 2007				
Start of operation	June 2007				

Source: SDG&E; CPCN application, March 2004

ROW Preparation, Access, and Staging

Prior to construction, areas along the project ROW would need to be cleared for project related construction activities. In order to safely travel within the ROW, existing access roads may need to be regraded and/or extended. As illustrated in *Figure B-3, Project Maps 1, 2a, 2b and 2c,* as well as in *Appendix 1, Detailed Project Maps,* approximately 2.5 miles of new access or spur roads would be required to provide construction access for the new structure sites. As shown in *Figure B-3, Project Map 1, 2a, 2b, 2c, and 4a,* as well as in *Appendix 1, Detailed Project Maps,* pull and tension sites (300 feet by 150 feet) in size and five splice and/snubbing areas 500 feet by 150 feet would be required along the ROW. At least three staging areas (approximately 300 feet by 150 feet in size) have been identified. These are located near the Miguel Substation (see *Figure B-3, Project Map 2a*), near mile-post 37 adjacent to Broadway Avenue in the City of Chula Vista (see *Figure B-3, Project Map 2c*) and near mile-post 42 at West 29th Street and Cleveland in National City (see *Figure B-3, Project Map 4*).

Installation of New Structures and Modifications to Existing Structures

Once access roads have been established, an area approximately 150 feet by 150 feet would be cleared around each new structure site and each structure requiring modification prior to the commencement of construction activities. This would allow for a safe working area and provide for the placement of equipment, vehicles, and materials at each location.

As illustrated in *Figures B-16* and *B-17*, installation of new poles would begin with the excavation of holes 3-9 feet in diameter and 8-40 feet in depth, depending on the type and height of the pole. Holes would be drilled using a truck-mounted auger or similar equipment. Once excavated, the holes would be cleaned and prepared.

New wood poles would be lifted into place using a mobile crane. The holes would then be backfilled with the excavated material and compacted. Any remaining excavated material would be placed around the holes or spread onto adjacent access roads.

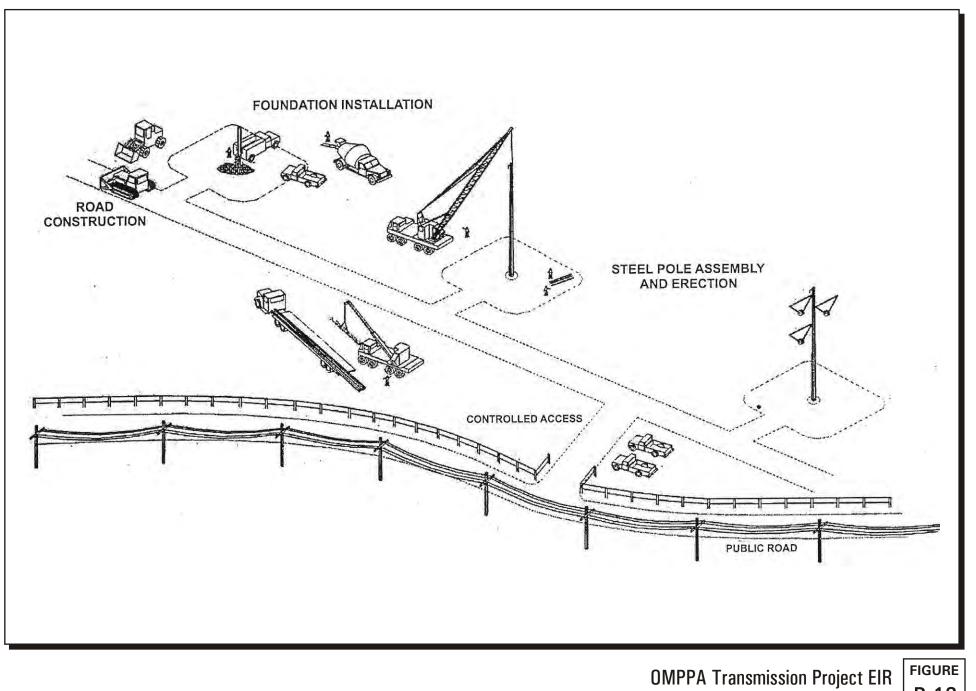
Holes for new steel poles would require installation of a concrete foundation. This involves installation of a reinforcing steel cage and anchor bolt cage followed by the pouring of approximately 40 to 100 cubic yards of concrete to form the foundation. The steel pole structures would then be assembled within the proximity of each site, and using a mobile crane, each structure would be lifted into position, while the construction crew bolts the pole to the foundation.

Structure Removal

Construction of the Sycamore to Fanita segment will involve the replacement of existing transmission structures with new tubular steel poles. Once the new foundations are installed and new 230 kV tubular steel poles are erected, the existing structures would be removed and the lines transferred to the new tubular steel poles. The old structures would be dismantled by cranes or helicopter, and would be hauled away by truck. After the structures have been removed, the existing concrete foundations would be jack-hammered to below grade, and debris would be removed. The hole will then be backfilled with soil or materials similar to the surrounding area and the site would be restored.

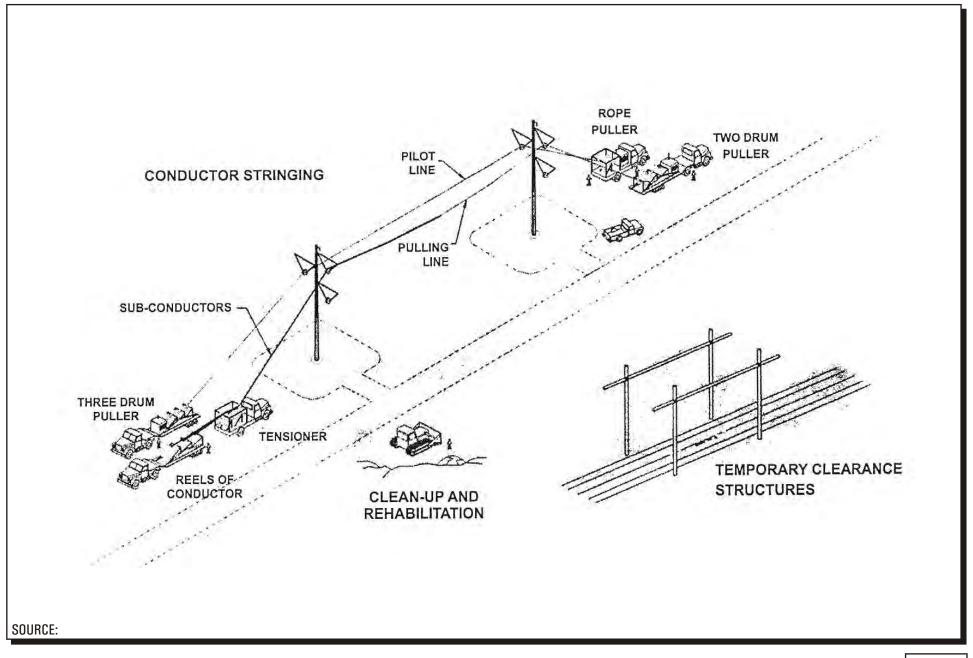
Conductor Stringing, Upgrading and Reconductoring

Prior to installing the new, overhead 230 kV line, SDG&E would install temporary wood, Hframe 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. An auger would be used to excavate the holes where the guard structures would be installed and a crane would lift the structures into place. No concrete foundations are required to set the guard structures and no grading or other site work would be required. The temporary guard structures would be temoved following the completion of conductor stringing operations and the holes would be backfilled with excavated soil. As an alternative to using temporary quad structures, SDG&E may use flaggers to temporarily hold traffic for brief periods of time while the overhead conductor is installed at road crossings.



Typical Construction Activity

B-16



OMPPA Transmission Project EIR Typical Conductor Stringing Activity



As illustrated in *Figure B-17*, conductor stringing operations begin with the installation of travelers or "rollers" on the bottom of each of the insulators using helicopters or aerial manlifts (bucket-trucks). The rollers 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 rollers, a sock line (a small cable used to pull the conductor) is pulled onto the rollers from structure to structure using helicopters or aerial manlifts traveling along the ROW. Once the sock line is in place, it is attached to the conductor and used to pull or "string" the conductor into place on the rollers using conventional tractor-trailer pulling equipment located at pull and tension sites along the line. The conductor is pulled through each structure under a controlled tension to keep it elevated and away from obstacles, thereby minimizing third-party damage to the line and protecting the public.

After the conductor is pulled into place, the sags between the structures are adjusted to a precalculated level. The line will be installed with a minimum ground clearance of 30 feet (25 feet where there is pedestrian access only). The conductor is then clipped into the end of each insulator, the rollers are removed, and vibration dampers and other accessories are installed.

During the conductor stringing, the shield wire with fiber optics is also strung on top of the transmission line structures in a similar fashion to the conductor stringing.

The steps involved in reconductoring an existing line to accommodate a higher ampacity or upgrading an existing line to a higher voltage line would be similar to those previously described for overhead conductor stringing operations. SDG&E will coordinate with the California Independent System Operator to obtain all the necessary line clearances prior to beginning reconductoring work. This will ensure that the existing line can be taken out of service and that power is redistributed to service centers and customers.

ROW Cleanup and Site Restoration

All areas that are temporarily disturbed by project activities (including structure sites, pull and tension sites, access roads, and staging areas) would be restored to near preconstruction conditions following the completion of construction. Restoration would include grading and restoration of sites to original contours and reseeding. In addition, all construction materials and debris would be removed from the project area and recycled or properly disposed of off-site.

B.3.3 Underground Transmission Construction

Construction of the underground transmission line from the South Bay Power Plant Area to the Sweetwater River Transition Area would occur primarily within SDG&E's ROW in mostly commercial and open areas. Construction of the underground transmission line from the Sicard Street Transition Area to SDG&E's Old Town Substation would occur in urban areas where

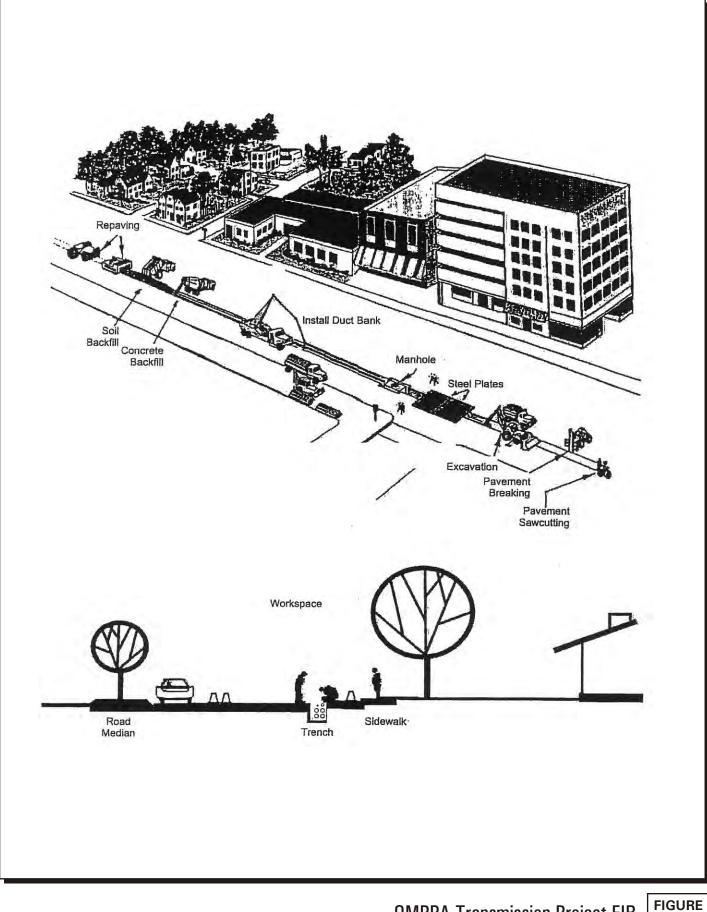
public roads will be used to access the project during construction. Where the line is installed underground in roadways, the work space would be limited to within the road ROW and/or within SDG&E's permanent 40-foot easement. Wherever the underground cable crosses private property outside of public roadways, SDG&E would acquire a 40-foot wide easement to accommodate the installation of the underground cable. No additional temporary workspace outside the 40-foot easement is anticipated to install the underground line except at bore sites as shown in *Figure B-3, Project Maps 3, 5a and 5b*. A conceptual depiction of the ROW activities for the underground 230 kV transmission line is shown in *Figure B-18. Figure B-19* presents a photograph of typical underground 230 kV transmission line construction.

Underground Trenching

The majority of the underground portion would be installed using open-cut trenching techniques and would require an approximate 35-foot wide temporary construction corridor. The typical trench dimensions for installation of a double duct bank would be a minimum of six feet deep and six feet wide, although depth may vary depending on soil stability and the presence of existing substructures/utilities. The trench would be widened and shored where necessary to meet California Occupational Safety and Health Administration safety requirements. If trench water is encountered, trenches would be dewatered using a portable pump and disposed of in accordance with Regional Water Quality Control Board (RWQCB) requirements.

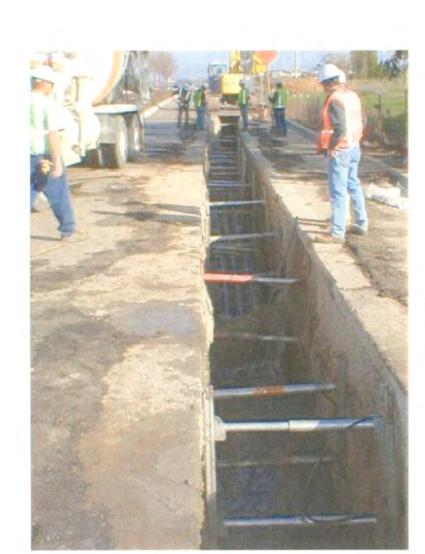
Trenching operations would be staged in intervals so that only a maximum of 300 to 500 feet of trench would be left open on each street at any one time or as allowed by permit requirement. This would generate approximately 400 cubic yards per day of excavated material. Steel plating would be placed over the trenches to maintain vehicular and pedestrian traffic across areas that are not under active construction.

Throughout trench excavation and installation of the duct bank and vaults, asphalt, concrete, and excavated materials would be hauled to a materials storage yard or appropriate disposal sites. Excavated materials would be tested and may be used as backfill if the material is suitable as a thermal backfill. The total volume of materials to be removed and disposed of is estimated at approximately 100,000 cubic yards. The number of truck trips to haul excavated materials to storage yards would vary based on the rate of the trenching, the area excavated to install the vaults, and proximity of the storage yards to the ROW, but would generally take up to 40 trips per day. Jackhammers will be used sparingly to break up sections of concrete that the saw-cutting and pavement-breaking machines cannot reach. Other miscellaneous equipment would include a concrete saw, various paving equipment, and pickup trucks.



OMPPA Transmission Project EIR
Typical Underground Construction Process within Roadway

B-18



Trench in street. Conduit for individual transmission cables visible in center of photo.

Special Construction Methods

The underground routes (South Bay Power Plant to Sweetwater River and Sicard Street to Old Town) would primarily require horizontal jack-and-bore and directional drill construction methods where open-cut trenching is not permitted or is not feasible, such as to cross railroad tracks, trolley tracks, highway crossings, drainage channels, and other obstacles where trenching is not feasible. Jack-and-bore and directional drill crossings involve pushing or boring a 36- to 42-inch steel casing through the earth, under the crossing. No vaults would be installed in areas proposed for jack-and-bore or directional drill construction. As shown in *Figure B-3, Project Maps 3, 5a and 5b,* the bore and directional drill sites would be located primarily within city streets and SDG&E's ROW. The disturbance at these work areas would be temporary and the land would be restored to near preconstruction conditions once construction activities are complete.

The South Bay to Sweetwater route would include approximately three horizontal bores and two 2,500- to 3,000-foot long directional drills to cross under (approximately 45 feet below grade) the Sweetwater Marsh National Wildlife Refuge paralleling SDG&E's existing ROW. Due to the length of the directional drill, SDG&E would require an approximately 100-foot long by 80-footwide work area for equipment staging and to set up and facilitate the drilling operation (see *Figure B-3, Project Map 3*). Drilling fluid collection pits approximately ten feet long by ten feet wide by five feet deep would be dug at both the entry and existing hole locations to capture drilling fluids and cuttings. These drilling fluids are captured and disposed of at an approved disposal site. Upon completion of activities, the work sites would be restored to substantially their original condition.

The underground Sicard Street to Old Town route would include five horizontal bores and a 2,000- to 3,000-foot directional drill to cross under I-8, the San Diego River, the San Diego Trolley tracks, Friars Road, and a rail track within SDG&E's existing overhead transmission line ROW. Due to the length of the directional drill, SDG&E would require an approximately 100-foot-long by 80-foot-wide work area for equipment staging and to set up and facilitate the drilling operation (see *Figure B-3, Project Map 5b*). Drilling fluid collection pits approximately ten feet long by ten feet wide by five feet deep would be dug at both the entry and existing hole locations to capture drilling fluids and cuttings. These drilling fluids are captured and disposed of at an approved disposal site. Upon completion of activities, the work sites would be restored to substantially their original condition.

B.3.4 Transition Station Construction

The Sicard Street to Old Town route would require the construction of one transition station proposed to be located in an existing parking lot at the beginning of the segment where the line is converted from overhead to underground. As previously described and shown in *Figure B-3*,

Project Map 4, the transition station would be approximately 0.1 acre in size and would consist of a termination structure where the cable terminates, a support structure for the surge arrestors, and one dead end A-frame structure. Construction methods for these structures would be similar to those previously described for the new overhead transmission line structures.

B.3.5 Transition Cable Pole Construction

Installation of new transition cable poles at the South Bay Power Plant Area and Sweetwater River Transition Area as shown in *Figure B-3, Project Map 4*, will require approximately 100-foot by 100-foot work areas. These temporary work areas will provide a safe working space for equipment, vehicles, and materials during structure installation. SDG&E will restore the temporary work areas around each structure site upon completion of construction.

B.3.6 Substation Modification Construction

To accommodate the new 230 kV line, modifications would be required at the Sycamore Canyon, Miguel, and Old Town substations. All of the modifications planned at the existing substations would take place within the developed footprint of each station.

Crews would access the substations via existing paved roads and no road upgrades are anticipated. Foundations for new structures within the substation would be excavated with a backhoe or auger in a process similar to that described for overhead structure installation. Cranes or similar equipment would then be used to erect the new dead end steel structures and install other new hardware as described in *Section B.2.2 Project Components and Route Descriptions*.

B.3.7 Construction Equipment and Personnel

It is estimated that approximately 40 people per day would be required to construct the project at its peak. SDG&E expects that ten percent of the work force employed during construction would be from the contractor's pool of experienced personnel, with the remaining hires coming from local sources.

Equipment required for construction would include bulldozers, backhoes, graders, air compressors, man lifts, generators, rock blasting equipment, drill rigs, truck-mounted augers, flatbed trucks, boom trucks, rigging and mechanic trucks, small wheeled cranes, concrete trucks, and crew trucks. The new steel support structures and modifications to existing towers would also require the use of a large crane. Equipment necessary for stringing operations include pullers, tensioners, and wire reel trailers. Helicopters may also be used during construction and installation of poles. Undergrounding would also require horizontal bore equipment and

directional drill equipment. This equipment would be utilized in phases that would not operate concurrently. However, the equipment impacts are analyzed for the worst case scenario.

B.3.8 Potential Service Interruptions

The Proposed Project would be phased-in according to California Independent System Operator (Cal-ISO) requirements in order to reduce the potential for electricity service interruptions during construction. It should be noted, there could be some short-term local outage (less than eight-hour period during daylight hours) in order to transfer the power from one line to another. However, SDG&E would notify customers and businesses well in advance of any such planned local outage.

B.4 Operation and Maintenance

Operation or maintenance personnel would require access to the ROW for routine maintenance and inspection activities or during emergency situations. Maintenance to the ROW would include patrol of the lines, climbing inspections, and maintenance of necessary access and spur roads. SDG&E would keep the areas around all structures clear of vegetation and would limit the height of vegetation on the ROW. Routine maintenance activities to the transmission towers generally occur every three to four months. The underground portion of the Proposed Project would be inspected annually from inside the vaults. Since there are no vaults in the Sweetwater Marsh or San Diego River area, there would be no maintenance access required during operation of the line.

B.5 SDG&E Project Protocols

Section 1.7 of the March 2004 PEA prepared by SDG&E details the Project Protocols that would be followed during all project related activities. Project Protocols are specific to environmental issue areas, such as air quality, biological resources, cultural resources, or traffic impacts. SDG&E's Proposed Project Protocols are herein termed Applicant Proposed Measures (APMs). *Table B-3* lists which APMs are applicable to each environmental issue area, while *Table B-4* lists the APMs as proposed in the PEA.

All project-related activity is subject to the APMs. In addition, all project personnel are subject to training prior to beginning work on the project to ensure that the APMs, environmental laws and regulations, and all other agency requirements are understood and followed.

The impact analysis in this EIR assumes implementation of all APMs as part of the Applicant's project description. However, where other impacts are identified that are not addressed by these protocols, or where the protocols are not considered to be adequate to reduce impacts to less than significant levels, additional mitigation measures are recommended. APMs will be incorporated

into the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) developed for this Proposed Project and monitored in the same fashion as the mitigation measures developed in this EIR (see *Section G* of the EIR for details on the MMCRP).

TABLE B-3
APPLICANT'S PROPOSED MEASURES (APMs) FOR EACH ISSUE AREA

Issue Area	APMs
Aesthetics	3, 4, 5, 40, 41, 48, 49, 61, 62, 67, 68, 69
Air Quality	56, 57, 58, 59, 60
Biological Resources	1, 4, 7, 11, 17, 20, 21, 30, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 50, 52, 53, 54, 55
Cultural Resources	7, 12, 15, 17, 39, 40, 41, 53, 63
Geology, Soils, Mineral Resources, Paleontology	3, 5, 6, 7, 15, 38, 64, 65
Hazardous Materials	7, 16, 19, 29, 32, 33
Hydrology and Water Quality	3, 4, 5, 6, 11, 16, 32, 35, 38, 39, 40, 41, 52, 55, 57, 65
Land Use	45, 46, 50
Noise	8, 9, 60
Population and Housing, Public Services, Utilities, and Service Systems	5, 6, 7, 16, 32, 33, 66
Traffic & Transportation	59

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)		
APM No.	Description		
1	Except when not feasible, all project vehicle movement would be restricted to existing access roads and access roads constructed as a part of the project and determined and marked by SDG&E in advance for the contractor, contractor-acquired accesses, or public roads. New access road construction for the project would be allowed year-round. However, when feasible, every effort would be made to avoid constructing roads during the nesting season. When it is not feasible to keep vehicles on existing access roads or to avoid constructing new access roads during the nesting, breeding, or flight season, SDG&E would perform three site surveys in the area where the work is to occur. The surveys would be performed to determine presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include the least Bell's vireo, arroyo southwestern toad, coastal California gnatcatcher, Quino checkerspot butterfly, Southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Cooper's hawk, golden eagle, western burrowing owl, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, southern mule deer, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and the CDFG in accordance with its NCCP and consult on reasonable mitigation measures to avoid or minimize for potential impacts prior to vehicle use off existing access roads or the construction of new access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. Parking or driving underneath oak trees is not allowed in order to protect root structures. In addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, and other construction activities, which could interfere with plant photosynthesis, a speed limit of 15		

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
2	The area limits of project construction and survey activities would be predetermined based on the temporary and permanent disturbance areas noted on the final design engineering drawings to minimize environmental effects arising from the project, with activity restricted to and confined within those limits. Survey personnel shall keep survey vehicles on existing roads. During project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat would require prior approval from the project biological resource monitor in conformance with APMs 20 and 21. Hiking off roads or paths for survey data collection is allowed year-round as long as other APMs are met. Stringing of new wire and reconductoring for the project would be allowed year-round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and all vehicles used during stringing remain on project access roads. Where stringing requires that the conductor drag on the brush or ground or vehicles leave project access roads, SDG&E would perform three site surveys to determine presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include the least Bell's vireo, arroyo southwestern toad, coastal California gnatcatcher, Quino checkerspot butterfly, Cooper's hawk, Southern California rufous-crowned sparrow, grasshopper sparrow, golden eagle, coastal cactus wren, western burrowing owl, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, southern mule deer, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable and feasible mitigation measures for potential impacts, prior to dragging wire on the ground or through brush, or taking vehicles off project access roads. However, these site surveys would not re	
3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Maintenance of cut and fill slopes created by project construction activities would consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.	
4	In areas where recontouring is not required, vegetation would be left in place wherever feasible and original ground contour would be maintained to avoid excessive root damage and allow for resprouting.	
5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration would occur as required by the governmental agency having jurisdiction. The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts should never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor. Cleared vegetation would be hauled off-site to a permitted disposal location. To limit impact to existing vegetation, appropriately sized equipment (e.g., bulldozers, scrapers, backhoes, bucket-loaders, etc.) would be used during all ground disturbance and recontouring activities.	
6	Potential hydrologic impacts would be minimized through the use of BMPs such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures will be designed to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.	
7	Prior to construction, all SDG&E, contractor, and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the APM and to comply with the	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
	 applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures, erosion control, dust suppression, and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address: a. federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; b. the importance of these resources and the purpose and necessity of protecting them; and c. methods for protecting sensitive cultural, paleontological, and ecological resources. 	
8	SDG&E would respond to third-party complaints of radio or television interference generated by operation of the transmission line by investigating the complaints and by implementing feasible and appropriate measures. As a part of SDG&E's repair inspection and maintenance program, the transmission line would be patrolled and damaged insulators or other transmission line materials, which could cause interference, would be repaired or replaced.	
9	A bundled configuration of the conductors would be used on the 230 kV electric transmission line to limit the audible noise, radio interference, and television interference due to corona. Caution would be exercised during construction to try to avoid scratching or nicking the conductor surface, which may provide points for corona to occur. In addition to the bundled configuration conductors, special hardware design would also be used to limit corona potential.	
10	At the time of construction, SDG&E would conduct a good faith investigation to identify the existing potential for induced currents and voltage hazards, which may arise from the operation of the transmission facilities, and educate property owners and occupants concerns regarding the probability of induced currents and voltage hazards within conductive objects sharing or within reasonable proximity to the existing ROW.	
11	To the extent feasible, access roads would be built at right angles to the streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U. S." or "waters of the state." Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the U.S. Army Corps of Engineers, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings, but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and streambanks (e.g., towers would not be located within a stream channel; construction activities would avoid sensitive features). Prior to construction in streambeds and washes, SDG&E would perform three pre-activity surveys to determine the presence or absence of endangered riparian species. Endangered riparian species for which surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. In addition, road construction would include dust-control measures (e.g., watering of construction areas to suppress dust) during construction in sensitive areas, as required. Erosion control during construction in the form of intermittent check dams and culverts should also be considered to prevent alteration to natural drainage patterns and prevent siltation.	
12	In the construction and operation of the project, SDG&E would comply with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting air quality, water quality, wildlife and its habitat, and cultural resources.	
13	Fences and gates would be installed or repaired and replaced to their original condition to the extent agreed upon between the owner of the fences or gates and SDG&E if they are damaged or destroyed by construction activities. Any temporary gates located outside of the ROW would be installed only with the permission of the landowner and, to the extent feasible, would be restored to original condition following construction.	
14	Littering is not allowed. Project personnel would not deposit or leave any food or waste in the project area, and no biodegradable or nonbiodegradable debris would remain in the rightof-way following completion of construction.	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
15	If paleontological resources are encountered, appropriate field mitigation efforts would be implemented to protect the resources. For example, if significant resources are discovered, such as vertebrate fossils, construction would be stopped in this area while SDG&E and its designated paleontologist determine the appropriate method and schedule to recover or protect the resource. When it is not feasible to avoid paleontological sites, SDG&E would consult with the appropriate federal, state, and resource agencies and specialists to either develop alternative construction techniques to avoid paleontological resources or develop appropriate mitigation measures. Appropriate mitigation field measures may include actions such as protection-in-place by covering with earthen fill, removal and cataloging, and/or removal and relocation.	
16	Hazardous materials would not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment would be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, would be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.	
17	Prior to construction, the boundaries of plant populations designated as sensitive by the USFWS or CDFG, cultural resources, and other resources designated sensitive by SDG&E and the resource agencies would be clearly delineated with clearly visible flagging or fencing. The flagging and fencing shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction and maintenance activities. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with APM 21, and the responsible resource agency(ies) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of the presence of any covered plant species to be removed in the work area would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither the USFWS nor CDFG has removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the work and cause a take of such plant(s), if minimization measures are not implemented.	
18	To the extent feasible, transmission line facilities (e.g., the transmission ROW, access roads, tower sites, and other facilities) would be designed to avoid or minimize impact to agricultural land operations and production. Where project facilities cannot be relocated or redesigned to avoid impacts to agricultural lands or operations, SDG&E would pay just compensation to owners of agricultural lands where those lands or operations are permanently impacted (i.e., removed from practical use) by project facilities.	
19	Wildfires shall be prevented or minimized by exercising care when operating utility vehicles within the ROW and access roads and by not parking vehicles on or in close proximity to dry vegetation where hot catalytic converters can ignite a fire. In times of high fire hazard, it may be necessary for construction vehicles to carry water and shovels or fire extinguishers. Fire protective mats or shields would be used during grinding or welding to prevent or minimize the potential for fire.	
20	Brush clearing around any project facilities (e.g., towers, poles, substations) for fire protection, visual inspection, or project surveying in areas which have been previously cleared or maintained within a two-year or shorter period shall not require a pre-activity survey. In areas not cleared or maintained within a two-year period, brush clearing shall not be conducted during the breeding season (March through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the on-site biological resource monitor would make sure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, fire protection or visual inspection brush clearing work would be avoided until after the nesting season or until the nest becomes inactive. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance level survey, soil in the brush clearing area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present.	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
21	In the event that SDG&E identifies a threatened, endangered, or species of special concern species of plant not previously identified in surveys performed for the project within the 10-foot radius for brush clearing around project facilities, SDG&E shall 1) notify the USFWS (for Endangered Species Act-listed plants) and the CDFG (for California Endangered Species Act-listed plants) in writing of that plant's location and identity, and 2) of the nature of the project activity that may affect the plant. Notification would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS or CDFG have removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the brush clearing for fire protection purposes or visual inspection and cause a take of such plant(s), if minimization measures are not implemented.	
22	No wildlife, including rattlesnakes, may be harmed except to protect life and limb.	
23	Firearms shall be prohibited in all project areas except for those used by security personnel.	
24	Feeding of wildlife is not allowed.	
25	Project personnel are not allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.	
26	Plant or wildlife species may not be collected for pets or any other reason.	
27	Project supplies or equipment (e.g., foundation excavations, steel pole sections) where wildlife could hide shall be inspected prior to moving or working on them to reduce the potential for injury to wildlife. Supplies or equipment that cannot be inspected, or from which wildlife cannot escape or be removed, shall be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each workday. Supplies or excavations that have been left open shall not be covered or otherwise made secure from wildlife found therein is allowed to escape. If any wildlife are found entrapped in supplies, equipment, or excavations shall be avoided and the wildlife left to leave on their own accord, except as otherwise authorized by the USFWS and CDFG. Where project construction activities require that supplies, equipment, or excavations proceed despite the presence of hiding or entrapped wildlife, SDG&E may request that the USFWS and CDFG allow the on-site biological resource monitor, or a recognized wildlife rescue agency (such as Project Wildlife), to remove the wildlife and transport them safely to other suitable habitats.	
28	All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in the trench or excavation, the on-site biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The on-site biological resource monitor would make the required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them to safely to other suitable habitats.	
29	SDG&E, its contractors, subcontractors and their respective project personnel shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste or questions about environmental impacts, to the on-site biological construction monitors. Experts in wildlife handling (such as Project Wildlife) may need to be brought in by the project biological construction field monitor for assistance with wildlife relocations.	
30	Emergency repairs may be required during the construction and maintenance of the project to address situations (e.g., downed lines, slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs, the APM shall be followed to the fullest extent practicable. Once the emergency has been abated, any unavoidable environmental damage would be reported to the project biological construction monitor, who would promptly submit a written report of such impacts to the USFWS and CDFG and any other government agencies having jurisdiction over the emergency actions. If required by the government agencies, the biological construction monitor would develop a reasonable and feasible mitigation plan consistent with the APM and any permits previously issued for the project by the governmental agencies.	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
31	When critical habitat exists on either side of the project's existing ROW, SDG&E would not oppose dedication by the fee owner of the underlying property for conservation purposes provided that it shall acknowledge and except them from SDG&E's continued use of The property in a manner sufficient to reliably install, operate, maintain, and repair its existing and necessary public utility facilities within the ROW.	
32	A hazardous substance management, handling, storage, disposal, and emergency response plan would be prepared and implemented.	
33	Hazardous materials spill kits would be maintained on-site for small spills.	
34	In areas where soils and vegetation are particularly sensitive to disturbance (as defined in this PEA), existing access roads would be repaired only in areas where they are otherwise impassable or unsafe.	
35	To minimize ground disturbance impacts to streams in steep canyon areas, access roads in these areas would avoid streambed crossings to the extent feasible. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB.	
36	Environmentally sensitive tree trimming locations for the project would be identified in SDG&E's existing vegetation management tree trim database utilized by tree trim contractors. The biological field construction monitor shall be contacted prior to trimming in environmentally sensitive areas. Whenever feasible, trees in environmentally sensitive areas, such as areas of riparian or native scrub vegetation, would be scheduled for trimming during non-sensitive (i.e., outside of breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, SDG&E would perform three site surveys to determine presence or absence of endangered nesting bird species in riparian or native scrub vegetation. Endangered nesting bird species for which surveys would be performed include the least Bell's vireo, coastal California gnatcatcher, Southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Cooper's hawk, and golden eagle. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts prior to tree trimming in environmentally sensitive areas. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APM 43. Where riparian areas with overstory vegetation are crossed, tree removal (i.e., clear-cut) widths would be varied where feasible to minimize visual landscape contrast and to maintain habitat diversity at established wildlife corridor edges. Where tree removal widths cannot be varied, SDG&E would consult with the USFWS and CDFG to develop alternative tree removal options that could reasonably maintain edge diversity.	
37	All new access roads constructed as part of the project that are not required as permanent access for future project maintenance and operation would be permanently closed. Where required, roads would be permanently closed using the most effective feasible and least environmentally damaging methods appropriate to that area with the concurrence of the underlying landowner and the governmental agency having jurisdiction (e.g., stock piling and replacing topsoil or rock replacement). This would limit new or improved accessibility into the area. Mowing of vegetation can be an effective method for protecting the vegetative understory while at the same time creating access to the work area. Mowing should be used when permanent access is not required since, with time, total revegetation is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing would be necessary to maintain permanent access. The project biological construction monitor shall conduct checks on mowing procedures to ensure that mowing for temporary or permanent access roads is limited to a 12-foot-wide area on straight portions of the road (slightly wider on turns) and that the mowing height is no less than 4 inches from finished grade.	
38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
	related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into waterbodies.	
39	To the extent feasible, where the construction of access roads would disturb sensitive features, the route of the access road would be adjusted to avoid such impacts. Examples of sensitive features include, without limitation, cultural sites, identified habitats of endangered species, and streambeds. As another alternative, construction and maintenance traffic would use existing roads or cross-country access routes (including the ROW), which avoid impacts to the sensitive feature. To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers, such as easily visible flagging. Construction routes, or other means of avoidance, must be approved by the authorized officer or landowner before use. When it is not feasible to avoid constructing access roads in sensitive habitats, SDG&E would perform three site pre-activity surveys to determine the presence or absence of endangered or threatened species, or species of special concern, in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable and feasible mitigation measures for potential impacts prior to access road construction. However, these pre-activity surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21 42, 43, and 44. Where it is not feasible for access roads to avoid streambed crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds, to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed parallel to streambeds would require review and approval of necessary permits from the appropriate federal and State Historic Preservation Officer (SHPO) and local (indigenous Native American tribes) cultural resource agencies and specialists to either develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate m	
40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.	
41	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high-value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see APM 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high-value wildlife habitats, SDG&E would perform three site surveys to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
	transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate federal, state SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either modify the project or develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as data recovery studies, cultural resource removal and cataloging, and/or cultural resource removal and relocation.	
42	Conduct detailed on-the-ground surveys (focused or protocol surveys), as required by the applicable government environmental resource agencies, to determine whether the Quino checkerspot butterfly and arroyo southwestern toad habitat are present within the project's route. If these species habitats are determined to be potentially affected by project activities, specific alternative strategies to avoid such habitat and, where avoidance of such impacts is unavoidable, specific mitigation measures would be determined through consultation, in accordance with SDG&E's NCCP, with the USFWS and CDFG. If it is determined that it is not feasible to avoid such habitat impacts, the project biologist would recommend mitigation in consultation with applicable resource agencies. In those situations where more than one site visit may be necessary to identify a given species, no more than three site visits shall be required. It is expected that the typical USFWS search AMP would not be utilized in most situations due to the priority of these APMs to avoid where feasible.	
43	Conduct surveys as required by the applicable government environmental resource agencies to determine whether least Bell's vireo, coastal California gnatcatcher, Southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, Cooper's hawk, and golden eagle are present within the project route. If these species are present and unavoidable impacts to suitable habitat would occur, SDG&E would, to the extent feasible, cause such impacts to suitable habitat to occur during the non-breeding season for each species. Specific alternative mitigation measures (e.g., off-site restoration or enhancement of these species' habitats) would be determined through consultation, in accordance with SDG&E's NCCP, with the USFWS and CDFG. If it is determined that it is not feasible to avoid habitats during the breeding season, the project biologist would recommend alternative mitigation approaches to SDG&E, and a decision on how to proceed would be made in consultation with the applicable resource agencies. In those situations where more than one site visit may be necessary to identify a given species or its habitat, such as certain birds, no more than three site visits shall be required. It is expected that the typical USFWS search protocols would not be utilized in most situations due to the priority of these protocols to avoid where feasible.	
44	Conduct surveys as required by the applicable government environmental resource agencies to determine whether vernal pools containing San Diego fairy shrimp are present within the project route. If vernal pools and/or San Diego fairy shrimp are determined to be potentially affected by project activities, specific avoidance strategies and mitigation measures would be identified through consultation, in accordance with SDG&E's NCCP, with the USFWS, CDFG, and Corps (if necessary). Project facilities and activities shall be planned to avoid disturbance to vernal pools, their watersheds, or impacts to their natural regeneration. Continued maintenance of the project's facilities, utilizing existing access roads and access routes constructed as a part of the project, are allowed to continue in areas containing vernal pool habitats. Construction and maintenance of the project's facilities in no way impacts vernal pools.	
45	To the extent feasible, project facilities would be installed along the edges or borders of private property, open space parks, and recreation areas. When it is not feasible to locate project facilities along property borders, SDG&E would consult with affected property owners to identify facility locations that create the least potential impact to property and are mutually acceptable to property owners. When SDG&E cannot mutually resolve facility locations with property owners, SDG&E would pay just compensation to those property owners based on the facility locations identified by SDG&E.	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
46	To the extent feasible during final engineering design, coordinate the installation location of the project facilities line with landowners and/or the government agency having jurisdiction and/or the local government having an interest in the location of the facilities. When SDG&E cannot resolve facility locations in coordination with affected property owners that create the least potential impact to property and that are mutually acceptable to property owners, SDG&E would pay just compensation to those property owners based on the facility locations identified by SDG&E.	
47	High-visibility devices, where required by the Federal Aviation Administration, would be used to minimize the potential for aircraft to collide with the transmission line.	
48	Non-specular conductors would be used to reduce visual impacts.	
49	Dull-finish poles may be used to reduce visual impacts.	
50	Where necessary to avoid significant protected environmental land use impacts, limit potential visual impacts and reduce the footprint of structures, use steel pole support structures in place of steel lattice tower structures.	
51	To minimize perching opportunities for raptors near habitats supporting sensitive prey species, select structures incorporating a design to discourage raptor perching.	
52	To the extent feasible, design structure locations to avoid wetlands, streams, and riparian areas. These sensitive water resource features include riparian areas, habitats of endangered species, streambeds, cultural resources, and wetlands. If these areas cannot be avoided, a qualified biological contractor shall conduct site-specific assessments for each affected site. These assessments shall be conducted in accordance with Corps wetland delineation guidelines, as well as CDFG streambed and lake assessment guidelines, and shall include impact minimization measures to reduce wetland impacts to a less than significant effect (e.g., creation and restoration of wetlands). Though construction or maintenance vehicle access through shallow creeks or streams is allowed, staging/storage areas for equipment and materials shall be located outside of riparian areas. Construction of new access through streambeds that require filling for access purposes would require a Streambed Alteration Agreement from the CDFG and/or consultation with the Corps. Where filling is required for new access, the installation of properly sized culverts and the use of geotextile matting should be considered in the CDFG/Corps consultation process.	
53	Known and potential cultural and biological resources, which may be affected by the project, would be monitored during project implementation. This would involve pedestrian surveys (i.e., Class III) to inventory and evaluate these resources along the selected route and any impacted area (e.g., access roads, substation sites, staging areas, etc.) beyond the ROW. In consultation with appropriate land managing agencies, SHPO officers, and applicable resource agencies, specific avoidance strategies and mitigation measures would be developed and implemented to avoid or mitigate identified adverse impacts on private, state, Bureau of Land Management, tribal, or other lands. The primary goal is to avoid impacts to environmental resources, and secondarily to mitigate for unavoidable impacts. These may include project modifications to avoid adverse impacts, monitoring construction activities, or data recovery studies.	
54	In addition to the restoration and habitat enhancement, mitigation measures developed during the consultation period under Section 7.	
55	Erosion Control and Sediment Transport Control Plan would be included with the project grading plans submitted to San Diego County for review and comment. The sediment transport control plan would be prepared in accordance with the standards provided in the Manual of Erosion and Sedimentation Control Measures and consistent with practices recommended by the Resource Conservation District of San Diego County. Implementation of the plan would help stabilize soil in graded areas and waterways and reduce erosion and sedimentation. The plan would designate BMPs that would be implemented during construction activities. Erosion control efforts, such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and retention/settlement ponds, would be installed before extensive soil clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. Revegetation plans, the design and location of	

	TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)	
APM No.	Description	
	retention ponds and grading plans would be submitted to the CDFG and Corps for review in the event of construction near waterways.	
	Pursuant to the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, SDG&E will obtain coverage under the State Water Resources Control Board's (SWRCB) General Permit for storm water discharges associated with construction activity. Before initiating construction, SDG&E would submit a Notice of Intent (NOI) to the SWRCB for coverage under the General Permit. Under the General Permit, SDG&E would implement a Storm Water Pollution Prevention Plan (SWPPP), which would include specifications for Best Management Practices (BMP's) to prevent construction pollutants from contacting storm water and keeping any eroded materials from moving off site into receiving waters.	
56	 Although the release of particulate matter (PM10) associated with project construction is insignificant relative to ambient PM10 levels, the following protocols would be employed: a. Prohibiting construction grading on days when the wind is significant, where feasible. b. Covering all trucks hauling soil and other loose material, or requiring at least 2 feet of freeboard. c. Erecting snow-fence type windbreaks in areas identified as needed by SDG&E. d. Limiting vehicle speeds to 15 mph on unpaved roads. e. Treating unpaved roads with chemical stabilizers or by watering as necessary. f. Applying soil stabilizers to inactive construction areas on an as-needed basis. g. Placing perimeter silt fencing, watering as necessary, or adding soil binders to exposed stockpiles of soil and other excavated materials. 	
57	To minimize mud and dust from being transported onto paved roadway surfaces, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.	
58	To the extent feasible, any other air pollution control measures approved by the district and the Environmental Protection Agency as equivalent may be used.	
59	If suitable park and ride facilities were available in the project vicinity, construction workers would be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the project's construction schedule.	
60	To the extent feasible, unnecessary construction vehicle and idling time would be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project would apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off. Construction foremen would include briefings to crews on vehicle use as a part of preconstruction conferences. Those briefings would include discussion of a "common sense" approach to vehicle use.	
61	To reduce visual contrast, new pole locations would correspond with spacing of existing transmission line structures where feasible and within the limit of pole design. The normal span would be modified to correspond with existing towers where feasible, but not necessarily at every new pole location.	
62	To reduce potential visual impacts at highway, canyon, and trail crossings, poles would be placed at the maximum feasible distance from the crossing within limits of pole design.	
63	In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie	

TABLE B-4 APPLICANT PROPOSED MEASURES (APMs)					
APM No.	Description				
	the adjacent human remains until the remains have been investigated, as outlined in Section 10564.5 of the CEQA Guidelines, the Native American Grave Protection Act and its implementing regulations, California Health and Safety Code 7050.5, and California Public Resources Code Section 5097.98.				
64	During construction, SDG&E would remove boulders uphill of structures that pose potentially high risk of landslide damage to those structures and would position structures to span over potential landslide areas to the greatest extent feasible.				
65	In disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils would be decompacted as necessary prior to seeding and reclamation would occur to enhance revegetation and reduce potential for erosion.				
66	Underground Service Alert would be notified a minimum of 48 hours in advance of earth-disturbing activities in order to identify buried utilities.				
67	Selective Tree Planting (MP 29.5 to MP 36.5). Where close-range, unobstructed views of the new poles are available at distances of less than 250 feet from public parks and residential areas, trees consistent with SDG&E's Landscape Guideline will be installed individually or in informal groupings within the SDG&E easement to partially screen views of the new structures. In consultation with the City of Chula Vista Public Works Department and/or homeowners, trees may also be installed at key locations on residential or park property.				
	Plant material will be appropriate to the local landscape setting and will be consistent with SDG&E and CPUC requirements for landscaping in proximity to transmission lines.				
68	Minor adjustment to proposed pole locations (MP 29.5 to MP 36.5). Where close range, unobstructed views of the new poles are available and, where technically feasible, the proposed locations of new tubular steel poles will be adjusted slightly within the SDG&E ROW to reduce impacts on foreground views as seen from public roadways and/or park land. Adjustments to proposed pole locations will take advantage of screening provided by existing vegetation, topography, and/or structures located in the immediate vicinity in order to reduce the project's effect on public sightlines. Adjustments to locations for poles #200 (near J Street), #250 (at Greg Rogers Park),and #400 (near 4 th Avenue) in Chula Vista will be considered.				
69	Sicard Street Transition Area – Tree planting. Broadleaf evergreen trees will be installed along the east side of the site on the inside of the fenceline, parallel to Main Street to partially screen views of the transition station structures and equipment and to integrate the project with its surroundings as seen from Sicard Street and Main Street. Placement of trees will allow for clearances of overhead conductors.				
	Broadleaf evergreen trees will be installed along the west side of the site or within the Harbor Drive median to partially screen views of the transition station structures, to integrate the project with its setting, and to enhance the overall appearance of the Harbor Drive streetscape (if median planting is pursued, this measure will be implemented in consultation with the City of San Diego). All plant material will be appropriate to the local landscape setting and will be consistent with SDG&E and CPUC requirements for landscaping in proximity to transmission facilities.				

B.6 General References

- SDG&E (San Diego Gas and Electric Company). 2004a. Proponent's Environmental Assessment (PEA) for the OMPPA Transmission Project. Submitted to the California Public Utilities Commission March, 2004.
- SDG&E 2004b. Application of San Diego Gas & Electric Company for a Certificate of Public Convenience and Necessity for the OMPPA Transmission Project, March 2004.
- SDG&E. 2004c. Supplement to Application for the OMPPA Transmission Project, May 2004.
- SDG&E. 2004d. Second Supplement to Application for the OMPPA Transmission Project, July 2004.
- SDG&E 2003e. Response of San Diego Gas & Electric to CPUC Data Request No. 1. July, 2004
- SDG&E 2003f. Response of San Diego Gas & Electric to CPUC Data Request No. 2. August, 2004
- SDG&E 2004g. Response of San Diego Gas & Electric to CPUC Data Request No. 3. September 2004.
- SDG&E 2004h. Response of San Diego Gas & Electric to CPUC Data Request No. 4. September 2004.
- SDG&E 2004i. Response of San Diego Gas & Electric to CPUC Data Request No. 5. September, October 2004.
- SDG&E 2004j. Response of San Diego Gas & Electric to CPUC Data Request No. 6. October, November 2004.
- SDG&E 2004k. SDG&E Otay Mesa Power Purchase Agreement Transmission Project Amended Project Description, November 2004.

C. ALTERNATIVES

This section summarizes the information presented in *Appendix 2* to this EIR, Alternatives Screening Report, which contains detailed documentation and maps of all alternatives suggested for EIR consideration. This section is organized as follows: *Section C.1* is an overview of the alternatives screening process; *Section C.2* describes the methodology used for alternatives evaluation; *Section C.3* presents a summary of which alternatives have been selected for full EIR analysis and which have been eliminated based on CEQA criteria; *Section C.4* describes the alternatives that have been retained for full EIR analysis within each individual issue area in *Section D*; and *Section C.5* describes the No Project Alternative.

C.1 Alternatives Development and Screening Process

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project. In addition to mandating consideration of the No Project Alternative, CEQA Guidelines (Section 15126.6[d]) emphasize the selection of a reasonable range of potentially feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision makers. CEQA Guidelines state that the discussion of alternatives shall focus on alternatives capable of eliminating or reducing significant adverse environmental effects of a proposed project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. However, CEQA Guidelines declare that an EIR need not consider an alternative that fails to meet most of the basic project objectives, or whose effects cannot be reasonably ascertained, or whose implementation is remote or speculative.

The Proposed Project is described in detail in *Section B* of this EIR. *Appendix 2* describes the alternatives screening analysis that has been conducted for the Proposed Project and provides a record of the screening criteria and results that were reached regarding alternatives carried forward for full EIR analysis and alternatives eliminated. *Appendix 2* documents: (1) the range of alternatives that was suggested and evaluated; (2) the approach and methods used to screen the feasibility of these alternatives according to guidelines established under CEQA; and (3) the results of the alternatives screening. For alternatives that were eliminated from EIR consideration, *Appendix 2* explains in detail the rationale for elimination.

Numerous alternatives to the Proposed Project were suggested during the scoping period (July – August 2004) by the general public, and federal, State and local agencies in response to the NOP. Other alternatives were developed by EIR preparers or presented by SDG&E in its PEA.

Alternatives for this project were restricted to San Diego County in order to meet SDG&E's primary objective of delivering power from the OMGP located approximately three miles south of SDG&E's Miguel Substation in Southern San Diego County to the San Diego local reliability area (LRA).

In total, the alternatives screening process has culminated in the identification and screening of over 30 potential alternatives (see *Figures C-1, C-2 and C-3*). These alternatives range from minor design variations/options to SDG&E's proposed 230 kV project, to entirely different transmission line routes, to alternative energy technologies, as well as non-wires alternatives. "Non-wire alternatives" include methods of meeting project objectives that do not require major transmission lines (e.g., baseload generation, distributed generation, renewable energy supplies, conservation and demand-side management, etc.).

C.2 Alternatives Screening Methodology

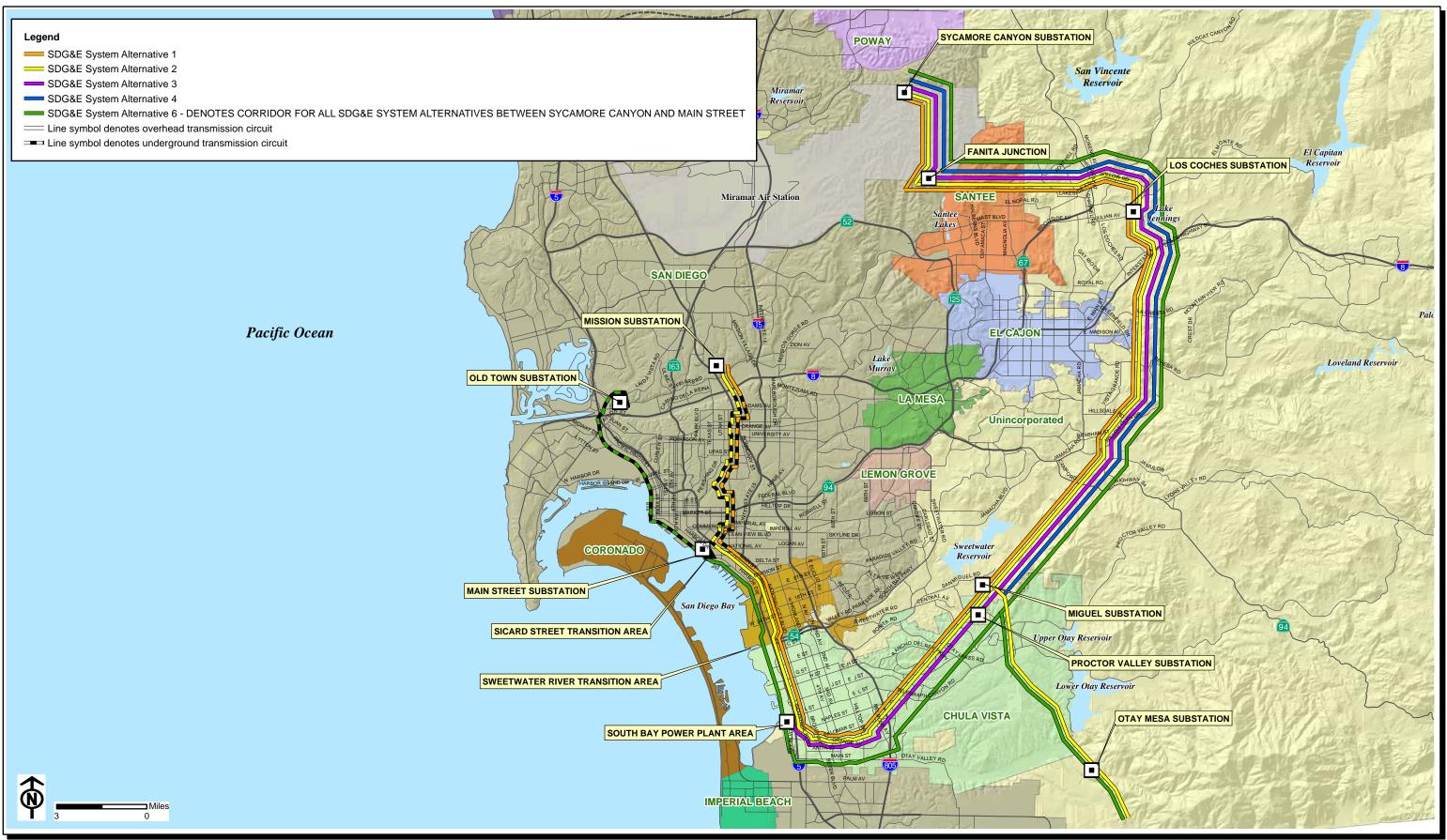
The evaluation of alternatives to the proposed OMPPA Transmission Project was completed using a screening process that consisted of three steps:

- **Step 1:** Clarify the description of each alternative to allow comparative evaluation.
- **Step 2:** Evaluate each alternative using CEQA criteria (defined below).
- **Step 3:** Determine the suitability of each alternative for full analysis in the EIR. If the alternative is unsuitable, eliminate it from further consideration. Infeasible alternatives and alternatives that clearly offered no potential for overall environmental advantage were removed from further analysis.

Following the three-step screening process, the advantages and disadvantages of the remaining alternatives were carefully weighed with respect to CEQA's criteria for consideration of alternatives. These criteria are discussed in greater detail in *Appendix 2* to this EIR.

CEQA Guidelines (Section 15126.6[a]) state that:

An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.

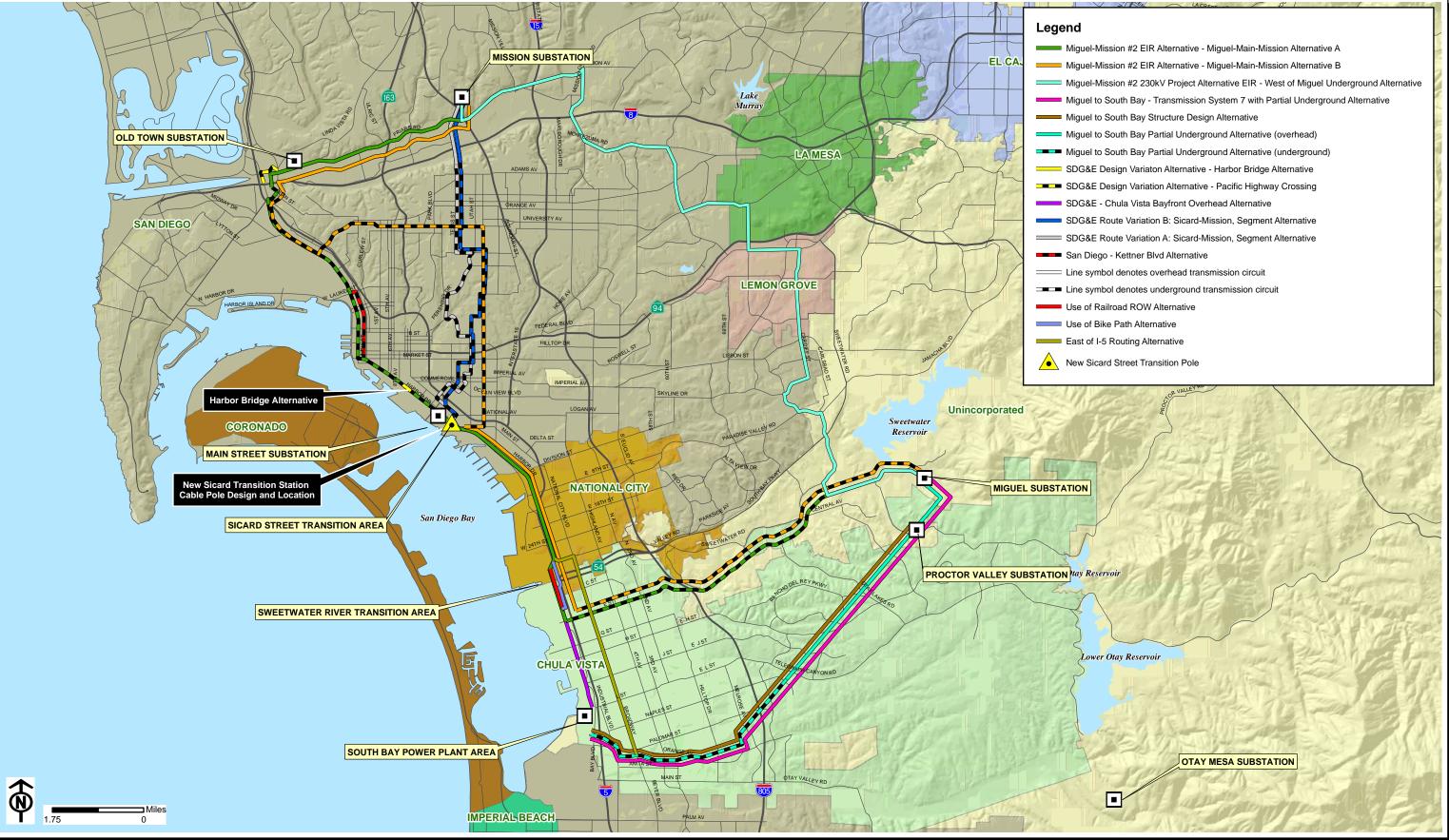


BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

Overview of Alternatives Considered in Screening Analysis - SDG&E PEA System Alternatives

OMPPA Transmission Project - Alternatives Screening Report



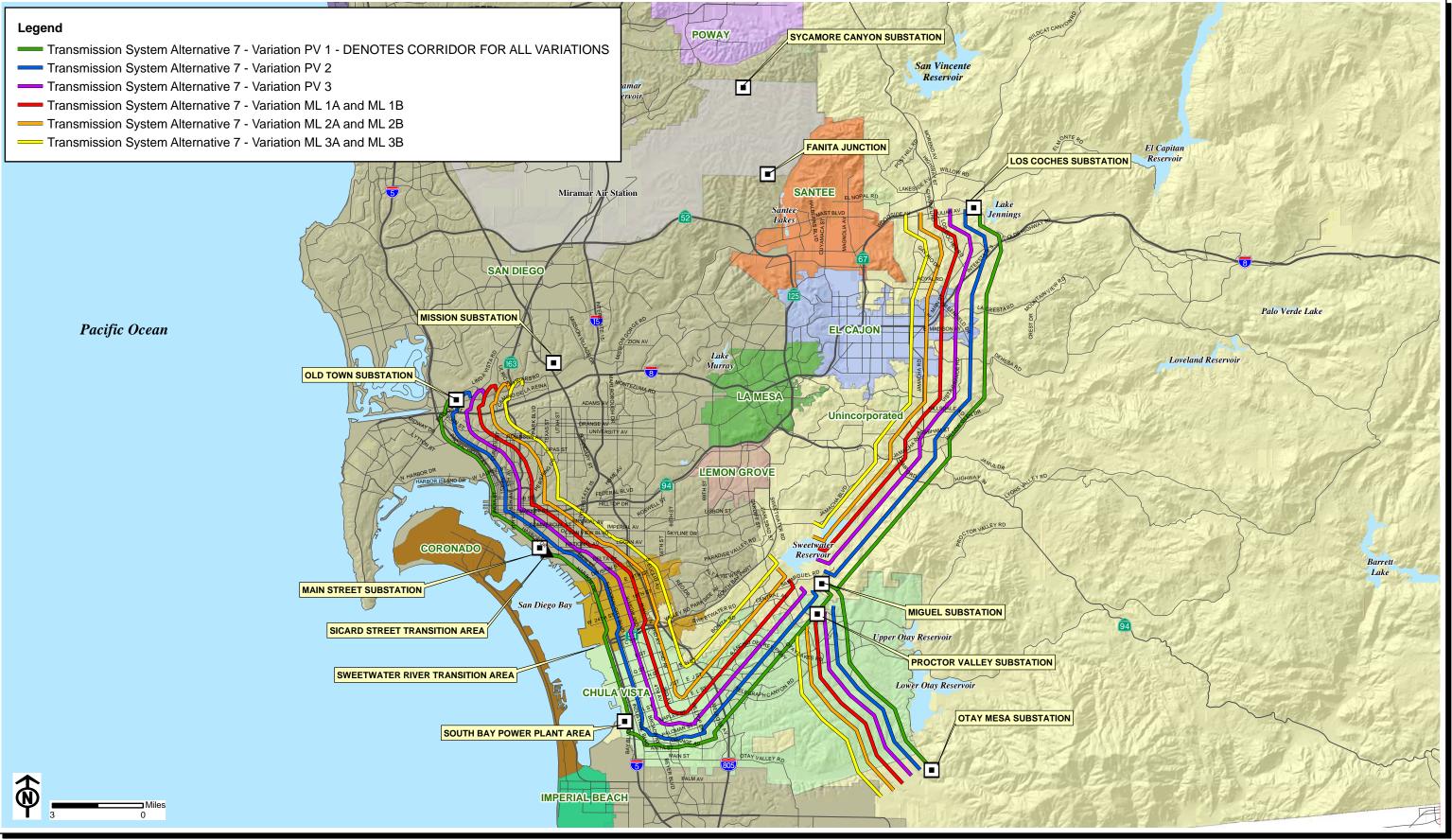


BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

Overview of Alternatives Considered in Screening Analysis Route and Design Variations

OMPPA Transmission Project - Alternatives Screening Report





BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

Overview of Alternatives Considered in Screening Analysis - Transmission System Alternative 7 and Variations

OMPPA Transmission Project - Alternatives Screening Report



In order to comply with CEQA's requirements, each alternative that has been suggested or developed for this project has been evaluated in three ways:

- Does the alternative meet most basic project objectives?
- Is the alternative feasible (legal, regulatory, technical)?
- Does the alternative avoid or substantially lessen any significant environmental effects of the Proposed Project (including consideration of whether the alternative itself could create significant environmental effects potentially greater than those of the Proposed Project)?

C.2.1 Consistency with Project Objectives

CEQA Guidelines require the consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives" (Section 15126.6[b]). Therefore, it is not required that each alternative meet *all* of SDG&E's objectives. However, each alternative must be able to "feasibly' accomplish most of the basic objectives of the project (CEQA Guidelines 15126.6[c]).

The objectives of the Proposed Project are defined by SDG&E in its PEA and summarized in *Section A.2, Project Purpose and Need* of this EIR and described in detail in *Appendix 2, Alternatives Screening Report*. According to SDG&E, the proposed OMPPA Transmission Project would meet the following SDG&E objectives:

- Provide Full Dispatchability of Resources from the proposed OMGP (615MW) that could be delivered into the San Diego LRA.
- Provide Firm Transmission Delivery of OMGP to Load Centers at the Sycamore Canyon and Old Town substations, along with surrounding substations.
- Prevent the OMGP from Compounding Intra-Zonal Congestion at the Miguel Substation. The transmission plan of service for the OMGP prevents the OMGP from further compounding the intra-zonal congestion at the Miguel Substation by installing two new 230 kV lines that would bypass the Miguel Substation and directly connect with the OMGP's 230 kV lines.
- Meet G-1/N-1 Reliability Need Due to Future Load Growth. With the OMPPA Transmission Project, the OMGP would be directly connected into the SDG&E LRA, thus making the Otay Mesa generating units available to fill the reliability need as identified in SDG&E's 20-year, long-term resource plan.

- Provide for Expansion Capability for Load Growth and Possible Generation Retirement. According to SDG&E, the interconnection of the OMGP and the construction of the 230 kV transmission line to the Old Town Substation would provide strong backbone transmission support to the surrounding SDG&E service area, and be able to replace the local reliability currently provided by the South Bay Power Plant, that may be retired as early as December 2008.
- Minimize Load Shedding and Avoid Potential Cascading Outage During Miguel Corridor Outage. Planning for loss of an entire corridor is required by criteria established by the WECC, the NERC, and the CAL-ISO. Such an event occurred in October 2003 when multiple transmission lines on the Miguel corridor were forced out due to fire. The OMPPA Transmission Project helps to mitigate such events.
- Provide Cost Savings to SDG&E Customers by Reduction Some of the CAL-ISO RMR Contract Requirements. The CAL-ISO, as part of its role to ensure grid reliability, has entered into RMR contracts with generating plants in SDG&E's service area. The cost associated with the RMR contracts for units located in SDG&E's service area has been rising each year and is passed on to SDG&E's customers. According to SDG&E, the OMPPA Transmission Project would provide cost savings to customers, by reducing some of the RMR needs.

This EIR does not adopt or endorse the objectives that SDG&E has defined for its Proposed Project. The CPUC's CPCN proceedings will separately and specifically evaluate the need for the project.

C.2.2 Feasibility

CEQA Guidelines (Section 15364) define feasibility as:

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

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

- **Legal Feasibility:** Does the alternative involve lands that have legal protections that may prohibit or substantially limit the feasibility of permitting a 230 kV transmission line?
- **Regulatory Feasibility:** Does the alternative have the potential to avoid lands that have regulatory restrictions that may substantially limit the feasibility of, or permitting of, a 230 kV transmission line so that it can be constructed and operated by 2008?
- **Technical Feasibility:** Is the alternative feasible from a technological perspective, considering available technology; the construction, operation, and maintenance or spacing requirements of multiple facilities using common rights-of-way, and the potential for common mode failure?

For the screening analysis, the legal, technical, and regulatory feasibility of potential alternatives was assessed. The assessment was directed toward reverse reason, that is, a determination was made as to whether there was anything about the alternative that would be infeasible on technical, legal, or regulatory grounds.

The screening analysis did not focus on relative economic factors or costs of the alternatives (as long as they were found to be economically feasible) since CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives or would be more costly" (CEQA Guidelines Section 15126.6[b]). The CPUC's CPCN proceedings will separately and specifically consider cost issues.

C.2.3 Potential to Eliminate Significant Environmental Effects

CEQA requires that to be fully considered in an EIR, an alternative must have the potential to "avoid or substantially lessen any of the significant effects of the project" (CEQA Guidelines Section 15126.6[a]). If an alternative was identified that clearly does not provide potential overall environmental advantage as compared to the Proposed Project, it was eliminated from further consideration. At the screening stage, it is not possible to evaluate all of the impacts of the alternatives in comparison to the Proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area.

Table 2-1 in *Appendix 2* to this EIR presents a summary of the potential significant environmental effects of the Proposed Project. This impact summary was prepared prior to completion of the EIR analysis, so it may not be complete in comparison to the detailed analysis

now presented in *Section D* of this EIR. However, the impacts in the table are representative of those resulting from preliminary EIR preparation and were therefore used to determine whether an alternative met this CEQA criterion.

C.3 Summary of Screening Results

Table C-1 provides a composite list of the alternatives considered, and the results of the screening analysis with respect to the criteria findings for consistency with project objectives, feasibility and environmental effectiveness. Alternatives carried forward for full EIR analysis are listed below in *Section C.3.1*. Alternatives eliminated from further consideration follow in *Section C.3.2*. Alternatives considered included alternative route alignments and other transmission alternatives, alternatives that could replace the Proposed Project as a whole, non-wire alternatives, and the No Project Alternative. If so desired, in its decision, the CPUC could elect to combine or match certain alternatives and project components.

C.3.1 Alternatives Analyzed In The EIR

The alternatives listed below are those that have been selected through the alternative screening process for detailed EIR analysis (see *Figures C-2 and C-3*). Each of these alternatives meets all project objectives, is feasible, and avoids or reduces environmental effects of the Proposed Project. The alternatives are briefly described in *Table C-1* and *Section C.4*, as well as in greater detail in *Section 2 of Appendix 2* to this EIR.

- Pacific Highway Bridge Attachment Design Alternative
- Sicard Street Transition Cable Pole Design Alternative
- Harbor Drive Bridge Cable Attachment Design Alternative
- South Bay Power Plant Area to Sweetwater River Overhead Design Alternative
- Transmission System Alternative 7 PV1 Variation Miguel to South Bay Power Plant Area

C.3.2 Alternatives Eliminated From EIR Consideration

The alternatives that have been eliminated through the alternative screening process from EIR analysis are listed below (see *Figures C-1 and C-2*). As summarized in *Table C-1*, these alternatives have been eliminated due to project objectives and feasibility concerns, and because several would have greater environmental impacts than the Proposed Project. The rationale for elimination of each alternative is summarized in *Table C-1* and *Section C.4*, and presented in greater detail in *Section 4 of Appendix 2* to this EIR.

TABLE C-1 SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis			
Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Transmission System Alternatives			
SDG&E System Alternative 1	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets feasibility criteria.	Does not meet environmental criteria. Would not lessen significant impacts of Proposed Project. Would create additional new significant construction related noise, traffic and dust as well as permanent land use and visual impacts.
SDG&E System Alternative 2	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets feasibility criteria.	Does not meet environmental criteria. Would not lessen significant impacts of Proposed Project. Would create additional new significant construction related noise, traffic and dust as well as permanent land use and visual impacts.
SDG&E System Alternative 3	Does not meet screening criteria for project objectives.	Meets feasibility criteria.	Meets environmental criteria. Would avoid some of the significant impacts of the Proposed Project.
SDG&E System Alternative 4	Does not meet screening criteria for project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Meets environmental criteria. Would avoid most Proposed Project significant impacts.
SDG&E System Alternative 6	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Does not meet environmental criteria. Would not lessen significant impacts of Proposed Project. Would create new and additional potentially significant impacts between the Otay Mesa Substation and Miguel Substation.
Transmission System Alt. 7 PV1 Variation - Miguel to South Bay	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Meets environmental criteria. Would reduce Proposed Project significant visual impacts to less than significant by combining 138/230 kV lines on one structure thereby eliminating existing

TABLE C-1 SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis			
Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
			Iattice structures between Proctor Valley and South Bay Substation.
Transmission Design, Routing and Uno	lerground Alternatives – Miguel to South B	ay Alternatives	
Partial Underground Alternative – Miguel to South Bay	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets feasibility criteria.	Does not meet environmental criteria. Would only partially avoid some of the significant visual impacts of the Proposed Project; however, underground construction would create other significant impacts related to traffic, noise air emissions, trenching and boring during construction.
Transmission System 7 with Partial Underground – Miguel to South Bay	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets technical feasibility criteria.	Does not meet environmental criteria. Would avoid the significant visual impacts of the Proposed Project similar to Transmission System Alternative 7; however, unlike Transmission System Alternative 7, underground construction would create substantially greater significant impacts related to traffic, noise air emissions and community disruption during construction.
Structure Design Alternative – Miguel to South Bay	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Does not meet environmental criteria. Would require 50% more structures, including overhead facilities on Chula Vista Bayfront. Consequently, would have similar to greater significant visual impacts, including impacts to Chula Vista Bayfront.

TABLE C-1 SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis			
Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Transmission Design, Routing and Unc	lerground Alternatives – South Bay to Si	card Street	
SDG&E South Bay to Sweetwater River Overhead Design Option	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical feasibility. Unknown at this time if it would meet regulatory feasibility due to coastal permit issues within the City of Chula Vista.	Potentially meets environmental criteria by installing proposed 230 kV line on existing structures. Would reduce Proposed Project significant impacts related to geological hazards, hydrology, hazardous materials and biological resources associated with the Sweetwater Marsh National Wildlife Refuge.
SDG&E Sicard Street Cable Pole Design Option	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility due to lack of space and Caltrans restricted highway policies.	Meets environmental criteria. Would reduce Proposed Project land use impacts due to smaller footprint required. Would not cause other new significant impacts.
Caltrans Bike Path – Sweetwater Marsh Avoidance Route	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Does not meet technical and regulatory feasibility due to lack of space and Caltrans restricted highway policies.	Meets environmental criteria by reducing impacts to Sweetwater Marsh National Wildlife Refuge over proposed directional drilling.
Use of Railroad ROW – Sweetwater Marsh Avoidance Route	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Does not meet technical and regulatory feasibility due to the narrow width of ROW and need to secure additional ROW.	Does not meet environmental criteria as this alternative could increase temporary impacts through continuous trenching to the Sweetwater Marsh Natural Wildlife Refuge.
East of I-5 Routing - Sweetwater Marsh Avoidance Route	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets technical feasibility. Does not meet regulatory criteria for timeliness by 2008 due to the legal and regulatory issues associated with securing additional easements and land rights.	Does not meet environmental criteria. Would create new underground utility easement instead of using existing SDG&E ROW and additional significant impacts to noise, traffic, land use, hazardous materials and utilities

TABLE C-1 SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis			
Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
			associated with additional underground in congested areas.
Transmission Design, Routing and Und	lerground Alternatives – Sicard Street to O	ld Town/Mission	
SDG&E's Route Segment Variation A – Sicard Street to Mission	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets feasibility criteria.	Does not meet environmental criteria. Would avoid some of the significant impacts of the Proposed Project; however, alternative would have greater construction related noise and traffic impacts in residential areas and through Balboa Park, as well as increased long- term visual impacts in Mission Valley.
SDG&E's Route Segment Variation B – Sicard Street to Mission	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Does not meet feasibility criteria for technical considerations, due to underground utility congestion on 30 th street.	Does not meet environmental criteria. Would avoid some of the significant impacts of the Proposed Project; however, alternative would have greater construction related noise and traffic impacts in residential areas, as well as increased long-term visual impacts in Mission Valley.
SDG&E's Harbor Bridge Cable Attachment Design Variation	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Meets environmental criteria. Would reduce Proposed Project impacts to land use and would not cause new significant impacts to other areas or resources.
Kettner Boulevard Underground Route Alternative	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Does not meet feasibility criteria for technical considerations, due to underground utility congestion in Kettner Boulevard	Does not meet environmental criteria. Would reduce potential conflicts to planned improvements to Pacific Highway as planned for in the NEVP; however, would cause greater construction-related impacts (traffic/noise) to other residential/commercial areas along

TABLE C-1 SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis			
Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
			Kettner Boulevard as well as utility disruption.
SDG&E's Pacific Highway Bridge Cable Attachment Design Variation	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Meets environmental criteria. Would reduce potential Proposed Project impacts to San Diego River due to boring and would not cause unavoidable significant impacts to other resources or areas.
Transmission Design, Routing and Un	derground Alternatives – Miguel to Old Tow	vn/Mission	
SDG&E's New Alternative Routes – Miguel-Old Town, Miguel-Mission, Miguel-Sycamore Canyon and Miguel- Sicard Street.	Meets most project objectives. Unlikely to meet 2008 in-service date due to requirement to acquire a new 150-foot wide ROW and additional engineering design and construction time required.	May not meet regulatory criteria due to requirement to acquire a new 150 foot wide ROW.	Does not meet environmental criteria. Would avoid some of the significant visual impacts of the Proposed Project; however, new ROW alternatives would create greater significant land use, visual, and community disruption impacts to other areas of San Diego, La Mesa and/or El Cajon.
Miguel-Main-Mission A Alternative	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets feasibility criteria.	Does not meet environmental criteria. Would avoid some of the significant impacts of the Proposed Project, however, alternative would create other new significant impacts, including land use and visual to other highly developed areas of Chula Vista and Mission Valley.
Miguel-Main-Mission B Alternative	Meets CEQA screening criteria for project objectives. Meets most project objectives; may not meet 2008 in-service date due to additional engineering design and construction time required.	Meets feasibility criteria.	Does not meet environmental criteria. Would avoid some of the significant impacts of the Proposed Project, however, alternative would create other new significant impacts, including land use and visual to other highly developed areas in Chula Vista and Mission Valley.

TABLE C-1					
SDG&E OMPPA Transmission Project – Summary of Alternatives Screening Analysis Alternative Project Objectives Criteria Feasibility Criteria Environmental Criteria					
Miguel-Mission Underground Alternative	Meets CEQA screening criteria for project objectives. Meets most of the project objectives. Would not be located near the South Bay Power Plant. Therefore, would not meet objective of reducing RMR costs for San Diego ratepayers. Also may not meet 2008 in- service date due to additional engineering design and construction time required.	Would meet feasibility criteria.	Does not meet environmental criteria. Would avoid some of the significant visual impacts of the Proposed Project; however, underground construction would create other significant impacts to residential areas of San Diego and La Mesa during construction due to traffic and noise.		
Non-Wires Alternatives					
Non-Wires – South Bay Repower Alternative Project	Does not meet project objectives criteria. Would not meet most project objectives, including delivery of OMGP power to San Diego LRA, and reduction of RMR costs to San Diego ratepayers.	Legal and regulatory feasibility is unknown at this time.	Undetermined. Project insufficiently defined.		
Non-Wires – Energy Conservation and Demand Side Management	Does not meet project objectives criteria. Would not meet most project objectives, including delivery of OMGP power to San Diego LRA.	Would not meet feasibility criteria as these options are not feasible on a scale that would be suitable to replace the Proposed Project	Would meet environmental criteria, since impacts of OMPPA Project would be avoided, and no new significant environmental impacts would be created.		
Non-Wires – Renewable Energy Resources	Does not meet project objectives criteria. Would not meet most project objectives, including delivery of OMGP power to San Diego LRA.	Would not meet feasibility criteria as renewable resources are infeasible alternatives to replace the proposed transmission project.	Would meet environmental criteria, since impacts of OMPPA Project would be avoided, and no new significant environmental impacts would be created.		

- SDG&E System Alternative 1
- SDG&E System Alternative 2
- SDG&E System Alternative 3
- SDG&E System Alternative 4
- SDG&E System Alternative 6
- Partial Underground Alternative Miguel to South Bay
- Transmission System 7 with Partial Underground Miguel to South Bay
- Structure Design Alternative Miguel to South Bay
- SDG&E's Route Segment Variation A Sicard Street to Mission
- SDG&E's Route Segment Variation B Sicard Street to Mission
- Kettner Blvd. Underground Route Alternative Sicard Street to Old Town
- SDG&E's New Alternative Routes Miguel Old Town, Miguel Mission, Miguel Sycamore Canyon and Miguel Sicard Street
- Miguel Main Mission A Alternative
- Miguel Main Mission B Alternative
- Miguel Mission Underground Alternative
- Non-Wires South Bay Repower Alternative Project
- Non-Wires Energy Conservation and Demand Site Management
- Non-Wires Renewable Energy Resources
- Caltrans Bike Path
- Use of Railroad ROW Alternative
- East of I-5 Routing Alternative

C.4 Alternatives Evaluated in this EIR

C.4.1 Introduction

As discussed in *Section C.2*, alternatives were assessed for their feasibility, their ability to reasonably achieve the project objectives, and their potential for reducing the significant environmental impacts of the Proposed Project. Based on these screening criteria, the following alternatives were selected for detailed analysis within this EIR.

C.4.2 SDG&E Design Options

C.4.2.1 Pacific Highway Bridge Attachment Design Alternative

Description

The Pacific Highway Bridge Attachment Design Alternative is the same as the OMPPA Transmission Project, except in the vicinity of where the Miguel-Old Town 230 kV underground line crosses the San Diego River. Under this alternative, the 230 kV line cable would be

attached to the Pacific Highway Bridge rather than directional drilled under the San Diego River as proposed by the OMPPA Transmission Project.

As shown in *Figure C-4* (also see *Figure A-21 in Appendix 2* to this EIR), at approximately milepost 51, the proposed OMPPA underground transmission line would diverge from the alignment proposed by SDG&E and continue north along the Pacific Highway Bridge. The transmission line would be attached to the west side of the Pacific Highway Bridge for a distance of approximately 900 feet. On the north side of the Pacific Highway Bridge, the transmission line cable would again be placed in an underground trench in City of San Diego Streets, including Anna Avenue, Sherman Street, Banks Street, and Linda Vista. At the intersection of Linda Vista and Morena Boulevard, the 230 kV underground line alignment to the Old Town Substation would again rejoin SDG&E's proposed OMPPA Transmission Project route. This design variation alternative would increase the length of the transmission corridor over the OMPPA Transmission Project by 1,400 feet.

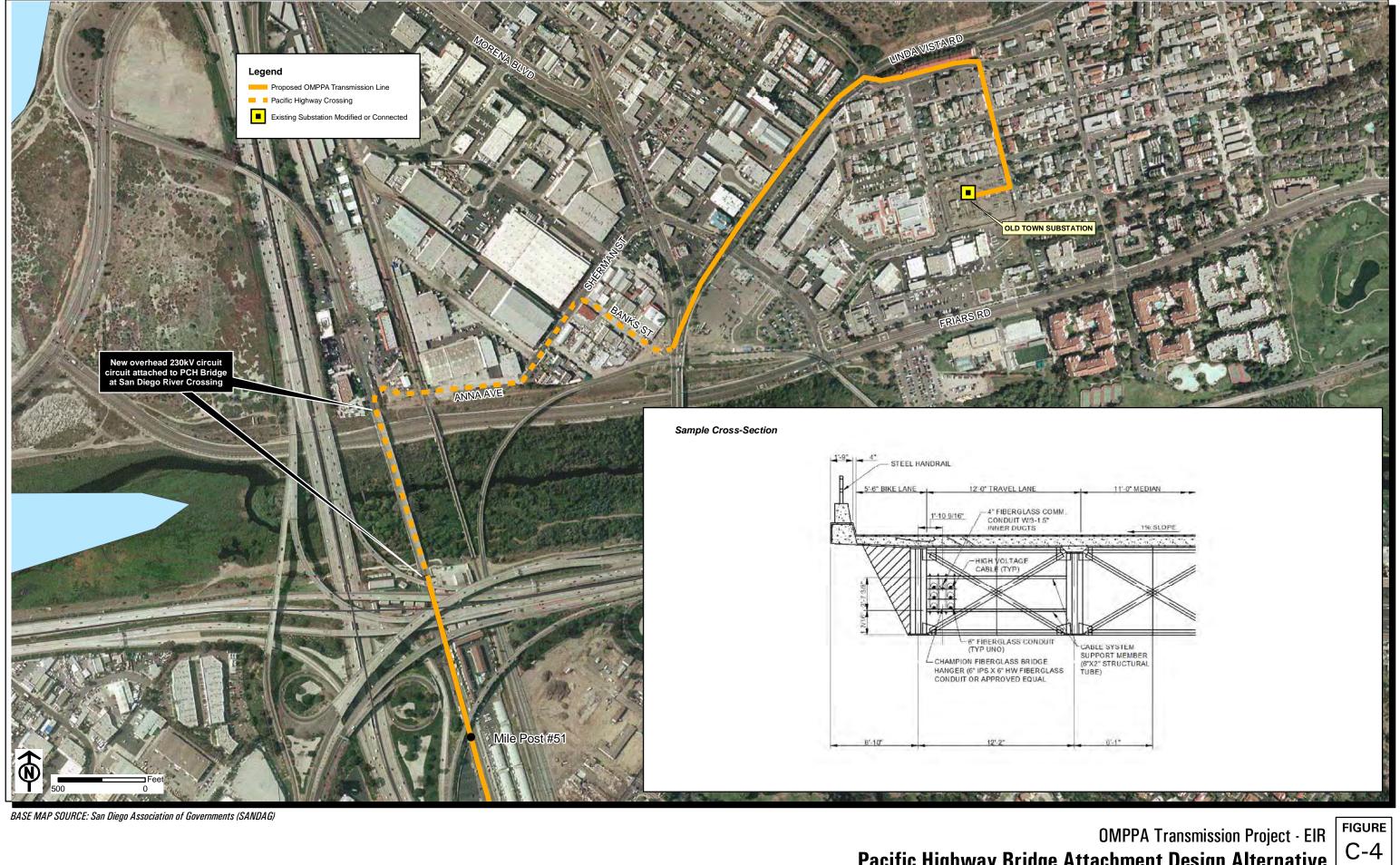
Rationale for Full Analysis

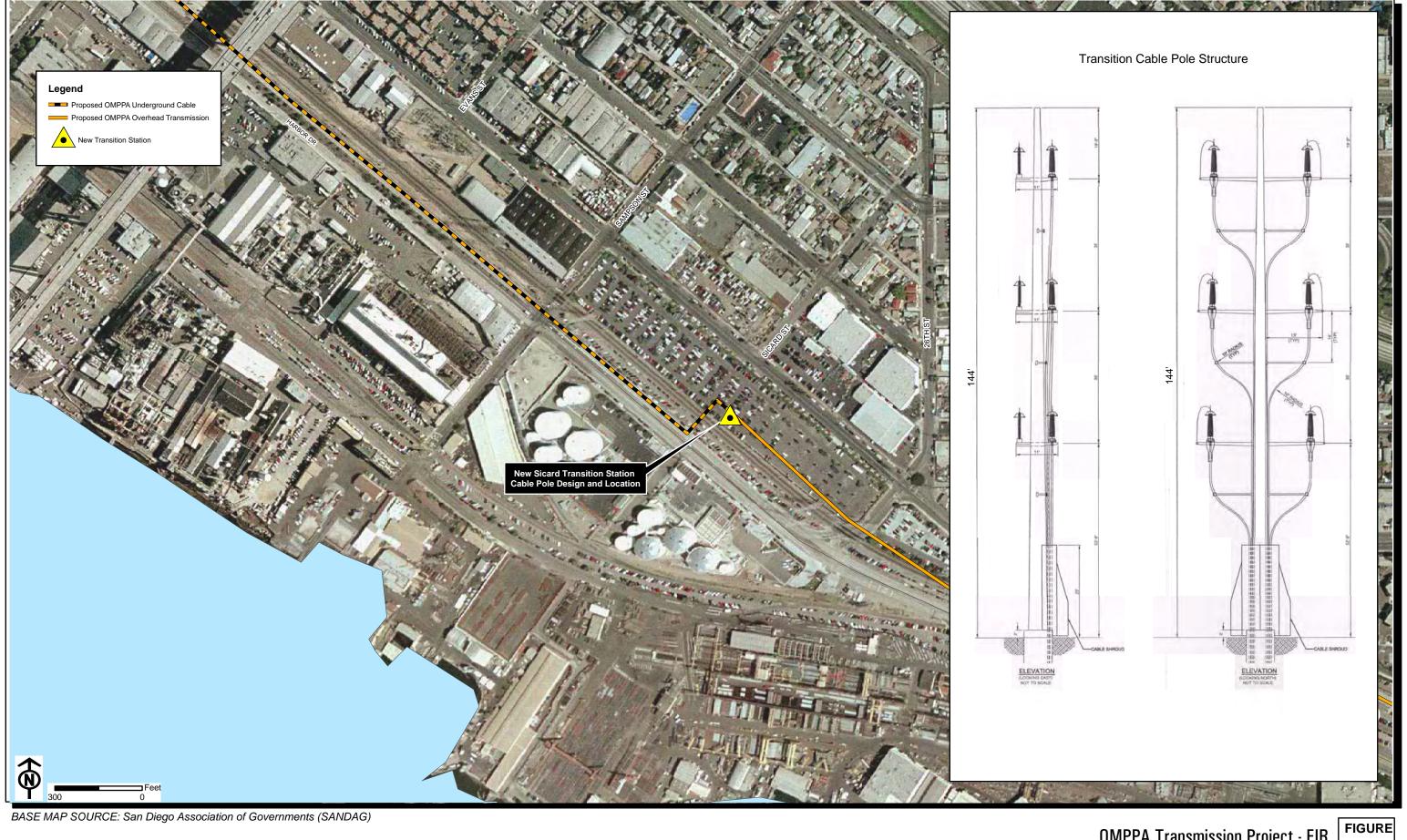
The Pacific Highway Bridge Attachment Alternative meets the CEQA criteria for project objectives, feasibility, and environmental effectiveness by avoiding potentially significant environmental impacts to soils, water resources and biological resources that could result from directional drilling under the San Diego River, while not resulting in potentially more overall environmental impacts than the Proposed Project. Consequently, this alternative was recommended to be carried forward to full EIR analysis.

C.4.2.2 Sicard Street Transition Cable Pole Design Alternative

Description

The Sicard Street Cable Pole Design Alternative is an alternative to the Sicard Street Transition Station. The alternative cable pole design is shown on *Figure C-5* (also see *Figure A-15 in Appendix 2* to this EIR) and would be approximately 145 feet in height. This structure would require a substantially smaller footprint for the single pole design, compared to the proposed 230 kV transition station that would be 100 feet by 50 feet in size. Aside from the design of the transition structures, this alternative would not alter any other aspects of SDG&E's proposed OMPPA Transmission Project.





OMPPA Transmission Project - EIR Sicard Street Transition Cable Pole Design Alternative



Rationale for Full Analysis

The Sicard Street Transition Cable Pole Design Alternative meets all the CEQA screening criteria for project objectives, feasibility and environmental considerations, as it would minimize land use impacts due to the smaller footprint required, while not resulting in potentially more overall environmental impacts than the Proposed Project. Consequently, this alternative was recommended to be carried forward to full EIR analysis.

C.4.2.3 Harbor Drive Bridge Cable Attachment Design Alternative

Description

With the exception of the crossing of the Harbor Drive Bridge, this alternative is the same as the proposed OMPPA Transmission Project. The Harbor Drive Bridge is located near mile-post 46 adjacent to Petco Park in downtown San Diego (see *Figure C-6* and *Figure A-19 in Appendix 2* to this EIR). The Harbor Drive Bridge Attachment Design variation is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. At the southern end of the Harbor Drive Bridge, the underground cable would emerge from its underground configuration where it would attach to the east side of the Harbor Drive Bridge. At this point on the north side of the Harbor Drive Bridge, the new 230 kV line would transition underground and rejoin the OMPPA Transmission Project alignment.

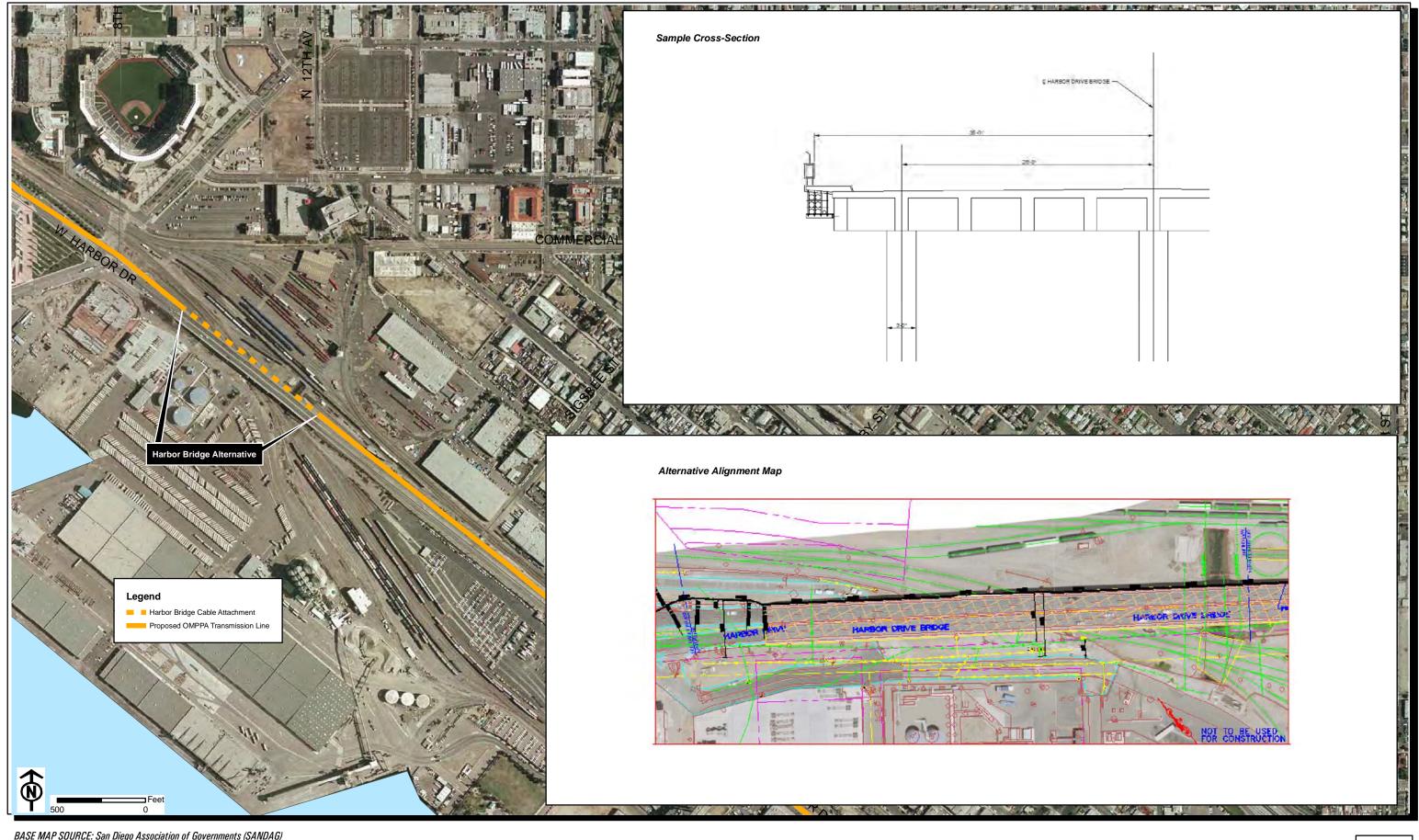
Rationale for Full Analysis

The Harbor Drive Bridge Cable Attachment Alternative passes the CEQA screening criteria for project objectives, feasibility, and environmental effectiveness by minimizing construction activities and associated disruptive activities in the Harbor Drive area, while not resulting in more overall environmental impacts than the Proposed Project. Consequently, this alternative was recommended to be carried forward to full EIR analysis.

C.4.2.4 South Bay Power Plant Area to Sweetwater River Overhead Design Alternative

Description

SDG&E has recommended that the OMPPA EIR address an alternative to the proposed project along the Chula Vista Bayfront that would be consistent with SDG&E's original proposed project, as described and evaluated in the PEA (SDG&E 2004a). The alternative recommended by SDG&E would be the same as the proposed project, except along the Chula Vista Bayfront, between the South Bay Power Plant Area and Sweetwater River where this alternative would



BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project - EIR Harbor Drive Bridge Cable Attachment Design Alternative



consist of the following actions and components (see *Figure C-7 and Figure A-14 in Appendix 2* to this EIR):

- Installation of a new overhead 230 kV line, to be supported on new double line steel poles from west of I-5 (new structure number 510) to the SDG&E bridge structures (existing structure 18491). Approximately seven new steel pole structures would be installed along approximately 3,000 feet of SDG&E's existing ROW;
- Installation of a new overhead 230 kV line, on 18 existing and modified SDG&E bridge structures, from existing bridge structure 189491 to structure 189507 to north of the Sweetwater River. This segment would extend from east of the South Bay Substation to north of the Sweetwater River. From north of the Sweetwater River, the alternative would be the same as the proposed OMPPA Transmission Project.

Rationale for Full Analysis

The South Bay Power Plant to Sweetwater River Overhead Design Alternative meets all the CEQA screening criteria for project objectives and potentially meets environmental considerations and regulatory feasibility criteria. While this alternative would minimize impacts to the Sweetwater Marsh National Wildlife Refuge, its ability to meet environmental considerations and feasibility would depend on its compatibility with applicable land use plans and policies relevant to the City of Chula Vista Bayfront and on the regulatory feasibility due to coastal permit issues within the City of Chula Vista. Because this alternative would minimize impacts to the Sweetwater Marsh National Wildlife Refuge, it was recommended to be carried forward to full EIR analysis.

C.4.3 Transmission System Alternative 7 PV1 Variation - Miguel to South Bay Power Plant Area

Description

In response to the NOP and public scoping comments, the CPUC Energy Division's EIR Team developed a conceptual Transmission System Alternative 7 PV1 Variation that would have the potential to avoid and minimize visual and land use impacts along almost the entire length of the proposed OMPPA Transmission Project in the City of Chula Vista, between the Proctor Valley Substation and the South Bay Power Plant Area (see *Figures C-8a, C-8b and C-8c;* also see *Figures A-7a and A-7b* in *Appendix* 2 to this EIR). Transmission System Alternative 7 PV1 Variation is a transmission system alternative to Segment 2 of the proposed OMPPA Transmission Project between the Miguel Substation to the South Bay Power Plant. This alternative would create one 138/230 kV tubular steel pole line and eliminate the existing 138 kV lattice towers from the Proctor Valley Substation to the South Bay Substation. Aside from the



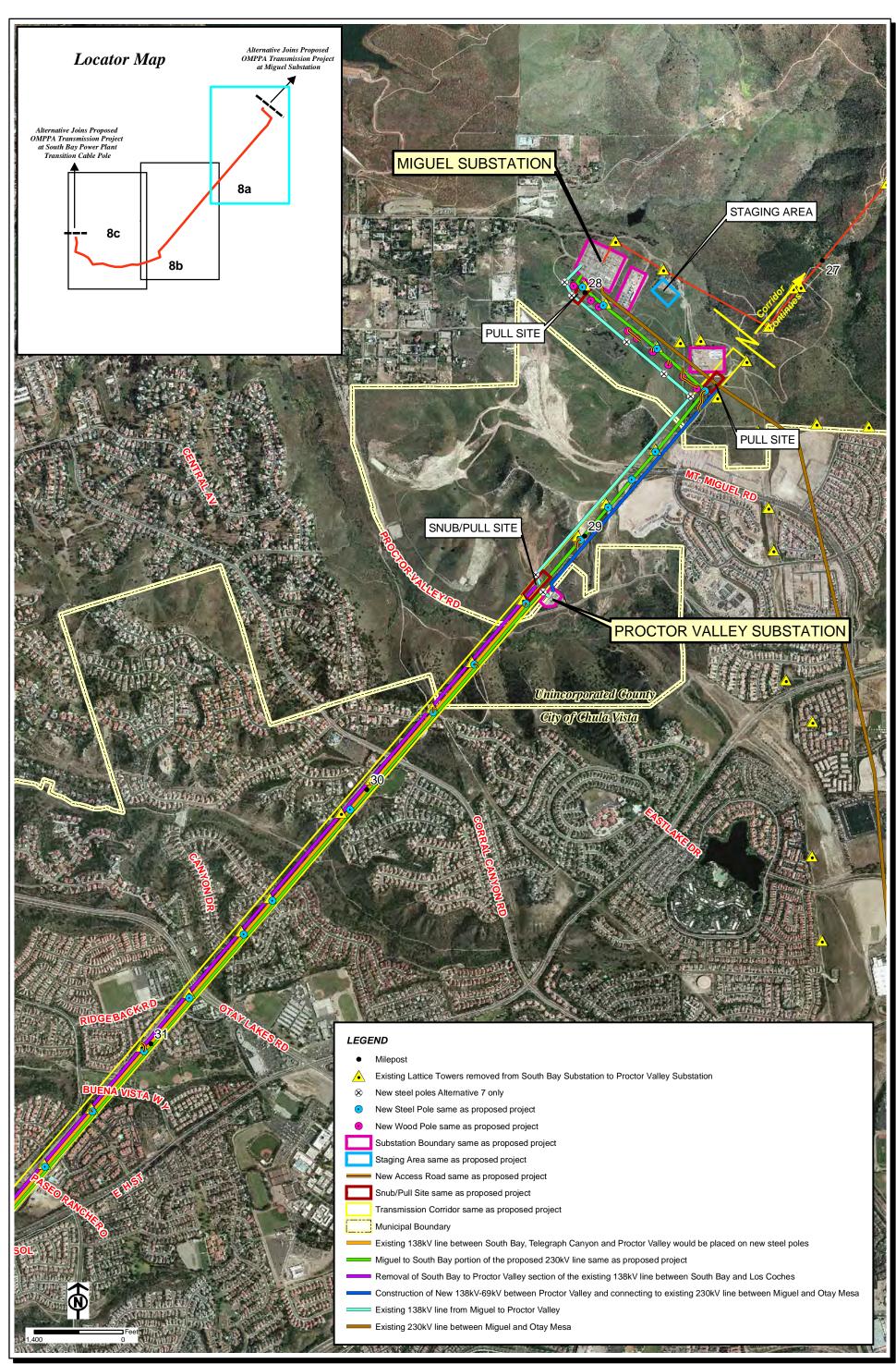
- Existing Lattice Tower
- Existing Wood Pole
- New Steel Pole
- New Wood Pole
- Existing Lattice Bridge



Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project - EIR

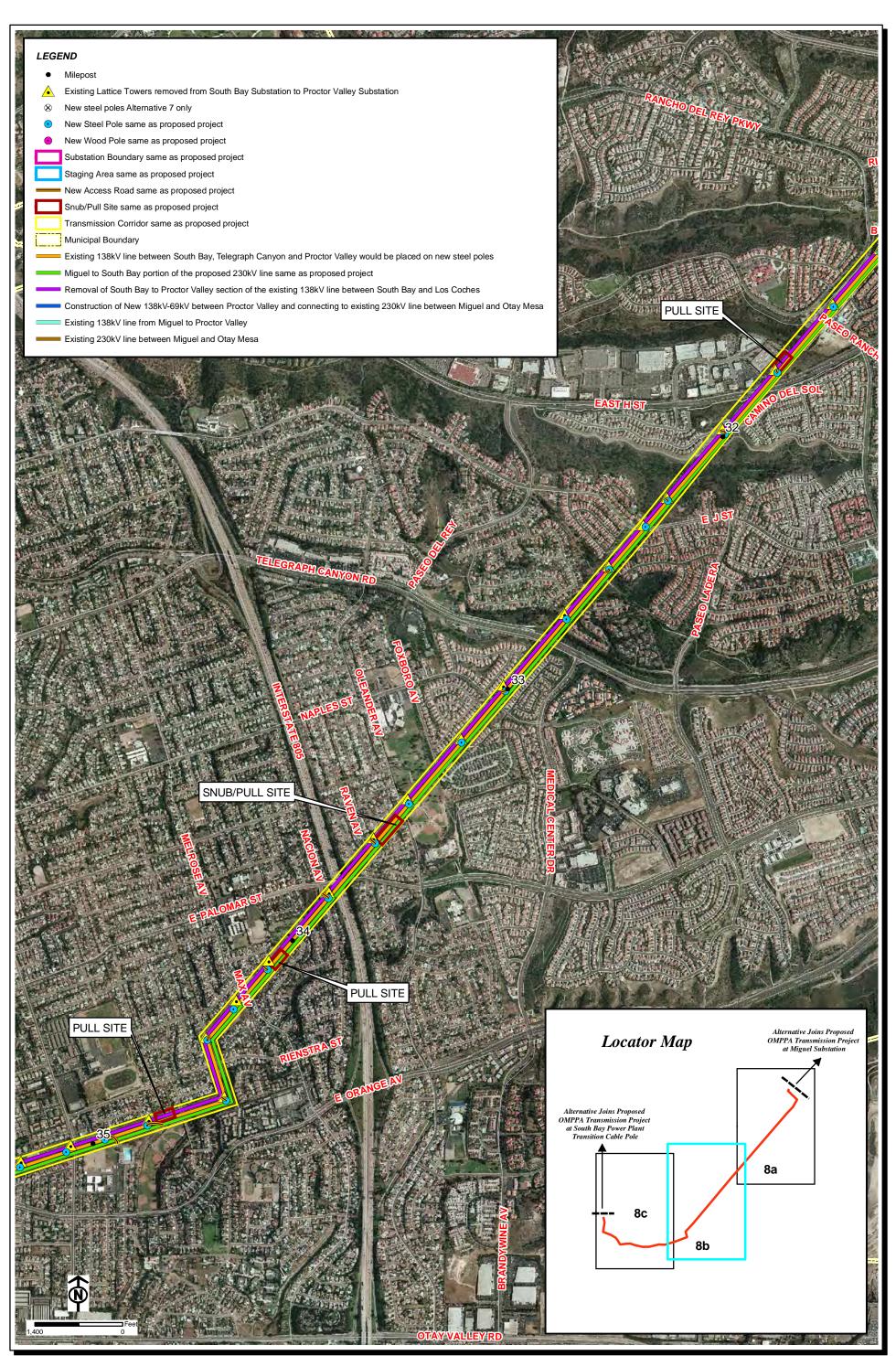
South Bay Power Plant Area to Sweetwater River Overhead Design Alternative



Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project - EIR



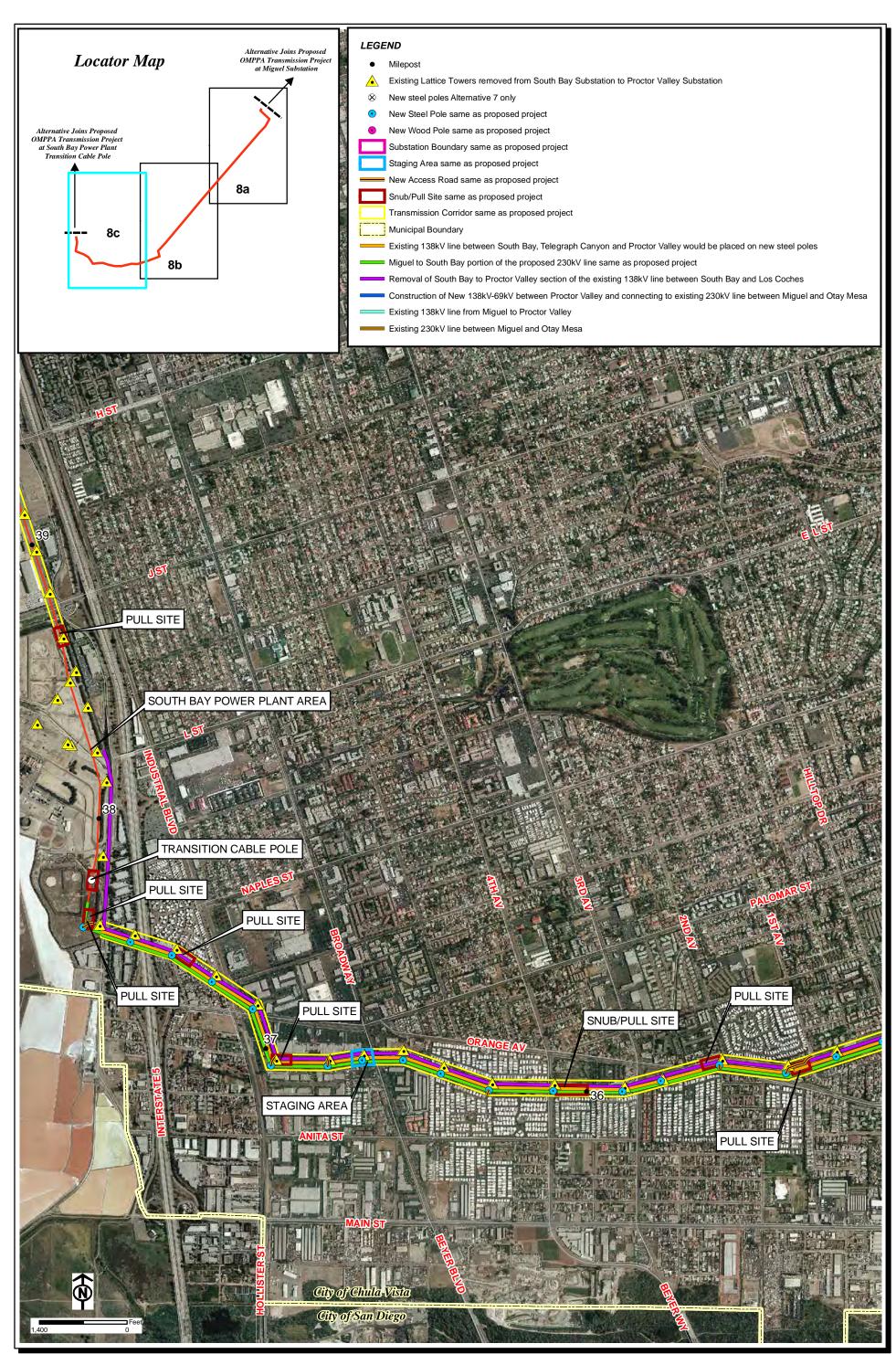


Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project - EIR



Transmission System Alternative 7 - Variation PV1 - Miguel to South Bay Power Plant Area



Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project - EIR



changes to Segment 2, this alternative would not alter any other aspects of the proposed OMPPA Transmission Project.

Between the Miguel Substation and the South Bay Substation area, Transmission System Alternative 7 PV1 Variation would consist of the following elements (see *Figures C-8a, C-8b and C-8c*):

- Construction of approximately 63 new double line transmission steel poles between Miguel and South Bay substations, primarily within SDG&E's existing ROW (same as in proposed OMPPA Transmission Project);
- Installation of a new Miguel-Old Town 230 kV line on one position of the new double line transmission poles that would constitute the Miguel to South Bay portion of the proposed Otay Mesa to Old Town transmission line (same as Proposed Project). West of I-5, the 230 kV line would transition underground and follow SDG&E's proposed underground segment along the Chula Vista Bayfront, to the Sweetwater River crossing (same as Proposed Project);
- Replacement of one of the existing 138 kV lines (currently on the lattice steel towers) on the second position of the new double line steel poles from South Bay Substation to Telegraph Canyon Substation and from Telegraph Canyon Substation to Proctor Valley Substation. This line would replace the portion of the existing 138 kV line that is connected to the noted substations;
- Retention of the existing 138 kV double line lattice towers between the Proctor Valley and Miguel substations and the addition of a second 138 kV line from Miguel Substation to Proctor Valley Substation;
- Removal of the portion of the existing South Bay to Los Coches 138 kV line between South Bay and Proctor Valley substations;
- Removal of the existing 138 kV lattice towers from the South Bay Substation Area to the Proctor Valley Substation;
- Addition of a second 230-138 kV transformer at the Miguel substation;
- Addition of necessary 138 kV bus work at Proctor Valley to (1) connect the remaining portion of the to South Bay to Los Coches138 kV line (i.e. the portion between Proctor Valley and Los Coches) into Proctor Valley Substation and (2) connect the new 138 kV line from Miguel into Proctor Valley substation;
- Replacement of one existing 138 kV-69kV transformer at Los Coches with a larger transformer.

Rationale for Full Analysis

Transmission System Alternative 7 PV1 Variation meets all of the CEQA screening criteria for project objectives, feasibility and environmental considerations. By combining the 138/230 kV lines on one structure and thereby eliminating existing lattice structures between the Proctor Valley and South Bay Substation, this alternative would eliminate long-term significant visual impacts to less than significant to almost the entire ROW within the City of Chula Vista. In addition, this alternative does not displace other long-term significant impacts to other resources or locations. Consequently, this alternative was recommended to be carried forward to full EIR analysis.

C.5 Alternatives Eliminated from Full EIR Evaluation

As discussed in *Section C.1*, alternatives were assessed for their ability to reasonably achieve the project objectives and reduce the significant environmental impacts of the Proposed Project. Also, their technical, legal, and regulatory feasibility was evaluated. Based on these screening criteria, the alternatives eliminated from EIR consideration are listed above in *Section C.3.2*. The rationale for elimination of each alternative is summarized below and presented in detail in *Section 4 of Appendix 2* of this EIR.

C.5.1 SDG&E System Alternative 1 (see Figure C-1 and Figure A-2 in Appendix 2 to this EIR)

Description

This alternative was evaluated by SDG&E in the PEA (March 2004). System Alternative 1 would require the construction of two 230 kV lines from the Miguel area with one line going to the Sycamore Canyon Substation and other to the Mission Substation. This alternative has the ability to bypass the Miguel Substation by the addition of 230 kV line tap breakers at the Miguel Substation. This project would entail the following actions:

- Construction of a new, second 230 kV line, that would be installed on existing overhead transmission structures between the Miguel and Sycamore Canyon Substations. This alternative would also require the installation of approximately five new structures at Fanita Junction;
- Construction of a new 230 kV line between the Miguel and Mission Substations, including:
 - New 230 kV structures and line from the Miguel Substation to South Bay Area.
 SDG&E estimates that (69) new poles would be required over a distance of approximately 10 miles;

- Modification of approximately 45 existing 138 kV bridge tower structures to support the new 230 kV line from South Bay to Main Street;
- Installation of new 230 kV underground trench from Main Street to just south of Interstate 8 in Mission Valley, a distance of approximately 8.2 miles;
- Replacement of existing 138 kV and 69 kV structures with 230 kV structures for 1.5 miles to bring the new 230 kV line in an overhead position into the Mission Substation. It is estimated that approximately seven new structures could be required.
- Addition of new 230 kV equipment at the Mission and Sycamore Canyon Substations.

SDG&E System Alternative 1 meets most of SDG&E's stated objectives and is considered feasible. This alternative however, would not lessen any of the significant environmental effects of the proposed OMPPA Transmission Project. Rather, SDG&E System Alternative 1 would create additional new significant impacts to residential and commercial areas of San Diego, from the Main Street Substation to the Mission Substation, where the line would be routed underground through dense residential neighborhoods, and overhead on new structures across I-8 and Mission Valley. Therefore, SDG&E System Alternative 1 does not meet the CEQA environmental screening criteria. Consequently, this alternative was eliminated from further consideration in this EIR.

C.5.2 SDG&E System Alternative 2 (see Figure C-1 and Figure A-3 in Appendix 2 to this EIR)

Description

This alternative is the same as SDG&E System Alternative 1, except that it builds on System Alternative 1 by adding a new 230 kV line between Otay Mesa Substation and the Miguel Substation. This alternative was evaluated by SDG&E in the PEA and would entail all the components listed in System Alternative 1, plus:

- Construction of a new, third 230 kV transmission line between the Miguel and Otay Mesa substations. This line would be approximately 7.6 miles in length and constructed on approximately 38 new double-line tubular steel pole structures. In order to make room for this facility in SDG&E's existing right-of-way, a realignment of the existing 230 kV tower structure line would also be required;
- Addition of 230 kV breakers, disconnects, and protection equipment at the Miguel Substation to accommodate the addition of a 230 kV line;

• Bypassing the Otay Mesa Substation to connect the existing 230 kV Otay Mesa Substation to Miguel Substation #3 line, with the Otay Mesa Substation to Tijuana Substation line.

Rationale for Elimination

SDG&E System Alternative 2 meets most of SDG&E's stated objectives and is considered feasible. SDG&E System Alternative 2, however, does not avoid or lessen any of the significant impacts associated with the OMPPA Transmission Project, and therefore does not meet the environmental screening criteria. SDG&E System Alternative 2 would result in all of the impacts of the proposed OMPPA project, plus additional construction-related impacts to sensitive residential neighborhood, between the Main and Mission Substations, and new significant impacts between the Otay Mesa and Miguel Substations. Consequently, this alternative was eliminated form further consideration in this EIR.

C.5.3 SDG&E System Alternative 3 (see Figure C-1 and Figure A-4 in Appendix 2 to this EIR)

Description

This alternative was evaluated by SDG&E in the PEA (March 2004) and would entail the construction of two 230 kV lines from the Miguel Substation and a new 230 kV/138 kV/69kV substation at the South Bay Power Plant. This alternative would require the following facilities and actions:

- Installation of a new, second 230 kV line on existing structures between the Miguel and Sycamore Canyon Substations, with approximately five new poles installed near Fanita Junction;
- Construction of a new 230 kV transmission line between the Miguel and South Bay substations, including construction of approximately 68 new overhead transmission structures and a 230 kV line within SDG&E's existing right-of-way between the Miguel Substation and the South Bay Area;
- Addition of 230 kV breakers, disconnects, and protection equipment at the Sycamore Canyon Substation to accommodate the addition of the line;
- Bypassing the Miguel Substation to connect the 230 kV Otay Mesa Substation to Miguel Substation #1 with Miguel Substation to Sycamore Canyon Substation #2;
- Bypassing the Miguel Substation to connect the 230 kV Otay Mesa Substation to Miguel Substation #2, with Miguel Substation to South Bay Power Plant;

• Construction of a new 230 kV/138 kV/69kV substation at the South Bay Power Plant with two 230 kV/138 kV transformers, two 138 kV/69kV transformers, and up to four 230 kV line positions.

Rationale for Elimination

While SDG&E System Alternative 3 would reduce and avoid some of the Proposed Project's significant environmental effects between the Sicard Station and Old Town Substation, this alternative would not meet most of SDG&E's stated objectives, and therefore would not meet the screening criteria for project objectives. Consequently, this alternative was eliminated from further consideration in this EIR.

C.5.4 SDG&E System Alternative 4 (see Figure C-1 and Figure A-5 in Appendix 2 to this EIR)

Description

SDG&E System Alternative 4 was evaluated by SDG&E in the PEA (March 2004) and would entail the construction of a new 230 kV line between the Miguel and Sycamore Canyon substations. According to SDG&E, most of the 230 kV line would be constructed on the vacant side of the Miguel Substation to Mission Substation #2 structures. The actions required with this alternative include:

- Installation of a new, second 230 kV line on existing overhead transmission structures for approximately 85% of the line between the Miguel and Sycamore Canyon Substations. Five new structures would be required at Fanita Junction;
- Addition of new 230 kV breakers, disconnects, and protection equipment at the Miguel and Sycamore Canyon substations in order to accommodate the addition of a line;
- Addition of a new 203kV line tap breaker at the Miguel Substation to directly bypass the Miguel Substation This tap breaker, would thereby create an Otay Mesa Substation to Sycamore Canyon Substation 230 kV transmission line.

Rationale for Elimination

Although SDG&E System Alternative 4 would meet the CEQA feasibility and environmental criteria, this alternative would not offer the full dispatchability and delivery of the Otay Mesa Power Plant, would increase rather than lessen congestion north of the Miguel Substation and would not reduce RMR costs and therefore does not fulfill most of SDG&E's stated objectives. Consequently, this alternative has been eliminated from further consideration in this EIR.

C.5.5 SDG&E System Alternative 6 (see *Figure C-1 and Figure A-6 in Appendix 2* to this EIR)

Description

This alternative is the same as SDG&E System Alternative 5 (the Proposed OMPPA Transmission Project), except: (1) the 230 kV line would be installed overhead on new double line structures or existing or modified SDG&E bridge structures, along the Chula Vista Bayfront; and (2) this alternative adds another new 230 kV line between the Otay Mesa Substation and the Miguel Substation. This alternative was evaluated by SDG&E in the PEA (March 2004) and would require the following components and activities:

Activities and components associated with this system alternative are:

- Construction of a new, second 230 kV transmission line between the Miguel and Sycamore Canyon Substations. This line would primarily be installed on existing structures, although approximately five new poles would be required near Fanita Junction;
- Addition of 230 kV breakers, disconnects, and protection equipment at the Sycamore Canyon Substation to accommodate the addition of the second transmission line. These modifications would allow the new line to bypass the Miguel Substation, thereby connecting the Otay Mesa Power Plant directly with the Miguel-Sycamore Canyon 230 kV line;
- Construction of a new 230 kV transmission line between the Miguel and Old Town Substations. Construction of this line would entail the following segments:
 - -- Construction of a new 230 kV line on approximately 69 new steel poles, within SDG&E's existing right-of-way, between the Miguel Substation and the South Bay area;
 - -- Installation of a new 230 kV line on SDG&E's existing bridge tower structures from the South Bay Substation area to just south of the Main Street Substation. This component would entail modifying approximately 45 existing bridge structures;
 - -- Installation of a new 230 kV line within a new underground trench from the Sicard Street Transition Area to the Old Town Substation. This would also require the installation of a new Sicard Street Transition station to transition the 230 kV line from overhead to underground;

- Bypassing the Miguel Substation to connect the 230 kV Otay Mesa Substation to Miguel Substation line with the Miguel Substation to Old Town Substation line;
- Addition of 230 kV breakers, disconnects and protection equipment at the Old Town Substation to accommodate the addition of a line.
- Construction of a new, third 230 kV transmission line for 7.6 miles between the Miguel and Otay Mesa substations. This line would either be built on approximately 37 new double-line steel pole structures, and require the realignment of the existing 230 kV lattice towers within the right-of-way, or would require that the new 230 kV line be undergrounded;
- The addition of new 230 kV breakers, disconnects and protection equipment at the Miguel Substation to accommodate the new transmission line;
- Bypassing the Otay Mesa Substation to connect the 230 kV Otay Mesa-Miguel line with the Otay Mesa-Tijuana line.

SDG&E System Alternative 6 would meet SDG&E's stated objectives and could potentially meet the CEQA feasibility criteria if the alternative were modified to be consistent with SDG&E's recent MOU with the City of Chula Vista. However, SDG&E System Alternative 6 does not meet the CEQA Environmental Criteria to avoid or lessen any of the significant impacts associated with the OMPPA Transmission Project. SDG&E System Alternative 6 would not avoid any of the significant impacts of the OMPPA Transmission Project. Furthermore, the alternative would create new and additional potentially significant impacts between the Otay Mesa Substation and the Miguel Substation. Consequently, this alternative has been eliminated from further consideration in this EIR.

C.5.6 Partial Underground Alternative – Miguel to South Bay (see *Figure C-2* and *Figures A-11a through c* in *Appendix 2* to this EIR)

Description

The Partial Underground Alternative - Miguel to South Bay would replace the OMPPA Transmission Project in the City of Chula Vista, between proposed structure numbers 230 and 510. All other aspects of the OMPPA Transmission Project would remain unchanged.

This alternative was developed by the EIR Team to consider underground options within SDG&E's right-of-way in the City of Chula Vista. The alternative was defined based on terrain

and vegetation conditions within SDG&E's right-of-way that would allow underground construction practices. The Partial Underground Alternative would extend from south of Telegraph Canyon Road (structure no. 230) to west of I-5 (structure no. 510) a distance of approximately 4.8 miles. Areas to the east, between the Miguel Substation and structure 230 were not considered for this alternative, since SDG&E's right-of-way crosses several canyons and steep slopes, as well as sensitive habitats. West of I-5, this alternative could be combined with SDG&E's proposed OMPPA Transmission Project, and the 230 kV line could continue underground along the Chula Vista Bayfront to south of the Sweetwater River.

This alternative would include the following components:

- Installing a new overhead 230 kV line overhead on approximately 28 new single steel poles, between the Miguel Substation and structure 230, south of Telegraph Road. Along this part of the right-of-way, this alternative would be the same as SDG&E's proposed OMPPA Transmission Project.
- Installing a new 230 kV line underground, within SDG&E's existing right-of-way, from near structure 230, south of Telegraph Road to west of I-5, near structure 510. West of I-5 this alternative could be combined with SDG&E's proposed OMPPA Project and continue underground along the Chula Vista bay front to south of the Sweetwater River. Borings would be required at the crossings of I-805, I-5 and the railroad.
- Installing a new 230 kV cable pole near proposed structure 230 south of Telegraph Canyon Road to transition the 230 kV line from overhead to underground.

Rationale for Elimination

The Partial Underground Alternative - Miguel to South Bay meets the CEQA screening criteria for project objectives and feasibility but does not meet the screening criteria for environmental criteria considerations. This alternative only partially avoids significant visual impacts from the Miguel Substation to the South Bay Power Plant and would increase the short-term construction-related impacts to residential communities due to increased traffic, noise, and air emissions associated with trenching and boring activities. Consequently, this alternative was eliminated from further EIR analyses.

C.5.7 Transmission System 7 with Partial Underground – Miguel to South Bay (see *Figure C-3 and Figures A-12a through c in Appendix 2 to this EIR*)

Description

The Transmission System 7 with Partial Underground – Miguel to South Bay would replace the proposed OMPPA Transmission Project in the City of Chula Vista, from the Proctor Valley

Substation to the South Bay Substation area, west of I-5. All other aspects of the OMPPA Transmission Project would remain unchanged by this alternative.

Transmission System 7 with Partial Underground – Miguel to South Bay was developed by the EIR Team as an alternative to minimize visual and land use impacts to the City of Chula Vista. This alternative would extend from the Miguel Substation to the South Bay Substation area. The alternative is essentially a combination of Transmission System Alternative 7 PV1 Variation and the Partial Underground Alternative, described above. The CPUC developed this alternative as another option for reducing the visual impacts of the OMPPA Transmission Project along the entire length of the Proposed Project's Miguel to South Bay segment. This alternative would entail the following actions and facilities between the Miguel Substation and South Bay Substation area:

- Construction of 5.2 miles of new overhead double line 230 kV/138 kV steel pole structures, from the Miguel Substation to south of Telegraph Canyon Road (near proposed structure 230). Approximately 28 new structures would be needed to support the proposed 230 kV line and one of the existing 138 kV lines;
- Removal of 17 existing 138 kV lattice structures, from Proctor Valley Substation to south of Telegraph Canyon Road (between structure 188657 and 188673);
- Installation of a cable pole transition, near proposed structure 230, to transition the 230 kV line from overhead to underground;
- Installation of approximately 4.8 miles of a 230 kV underground line, within SDG&E's existing right-of-way, from south of Telegraph Canyon Road to west of I-5 (between proposed structures 230 and 510).

This alternative would have the same system characteristics as Transmission System Alternative 7 PV1 Variation, and would entail removing a portion of one of the existing 138 kV lines between the Miguel and South Bay substations, by connecting the 138 kV line into the Miguel 138 kV bus and utilizing the open position for the new 230 kV line between Miguel and South Bay. As a consequence, the Transmission System 7 with Partial Underground potentially eliminates the need for a second set of new transmission structures between the Proctor Valley Substation and structure 510, south the South Bay Substation.

Rationale for Elimination

The Transmission System 7 with Partial Underground Alternative meets the CEQA screening criteria for project objectives and feasibility, but does not meet the screening criteria for environmental considerations. While this alternative would reduce significant visual impacts of the OMPPA Transmission Project, from the Proctor Valley Substation to west of I-5 similar to

the Transmission System Alternative 7, this alternative, unlike the Transmission System Alternative 7, would substantially increase the short-term construction-related impacts to traffic, noise, air emissions, and community disruptions due to the development of the underground segment between Telegraph Canyon Road and the South Bay Power Plant. Consequently, this alternative was eliminated from further EIR analyses.

C.5.8 Structure Design Alternative – Miguel to South Bay (see *Figure C-2 and Figures A-13A through C in Appendix 2 to this EIR*)

Description

The Structure Design Alternative – Miguel to South Bay would replace the proposed OMPPA Transmission Project 230 kV line from the Miguel Substation to the vicinity of the South Bay Substation. All other aspects of the OMPPA Transmission Project would remain unchanged by this alternative.

The Miguel to South Bay Structure Design Alternative would consist of placing both of the existing 138 kV lines and the proposed 230 kV line on one set of single steel pole structures, between the Proctor Valley Substation and the South Bay Substation area. The structure design proposed with this alternative would also provide space for an additional, second 230 kV line to be installed in the future, when needed.

This alternative would modify the proposed structure design, between the Miguel Substation and the South Bay Substation Area (to proposed structure 550). The structure design, associated with this alternative, would be suitable for carrying all three lines (i.e., the existing two 138 kV lines, and the proposed OMPPA Transmission Project 230 kV line), plus a future 230 kV line between Miguel and South Bay Substation. This alternative would allow SDG&E to remove the existing lattice structures, along approximately 9.2 miles of SDG&E's right-of-way, and replace them with the taller, single steel pole structures. This alternative would include the following components and actions:

- Construction of 9.2 miles of new 138 kV/230 kV quad line transmission structures between the Miguel Substation and the South Bay substation area, within SDG&E's existing and proposed right-of-way. SDG&E estimates that this design would require approximately 50% more structures. Approximately 85 new quad structures would be installed with this alternative, in total. West of I-5, the quad structures would continue to the South Bay Substation Area, with the 138 kV lines connecting to the South Bay Substation, and the 230 kV lines connecting to the existing SDG&E bridge structures;
- Installation of a new Miguel-Old Town 230 kV line on one position of the new quad line transmission poles that would constitute the Miguel to South Bay portion of the proposed

Otay Mesa to Old Town transmission line. West of I-5, the 230 kV line continue on the quad structures to the existing SDG&E bridge structures;

• Removal of approximately 48 existing 138 kV lattice towers, from the Miguel Substation to SDG&E bridge structures, west of I-5.

Rationale for Elimination

The Structure Design Alternative – Miguel to South Bay meets the CEQA screening criteria for project objectives and feasibility, but does not meet the environmental CEQA screening criteria since this alternative would require 50% more new structures than the Proposed Project. This alternative would not reduce or avoid any of the significant impacts of the proposed OMPPA Transmission Project and would result in potentially more overall long-term impacts to visual, land use and biological resources and more short-term construction related impacts to traffic, noise, air emissions and community disruptions than the Proposed Project. The alternative would further cause reliability concerns due to the placement of four high voltage lines on one set of transmission structures. Consequently, this alternative was eliminated from further EIR analysis.

C.5.9 Use of the Caltrans Bike Path – Sweetwater Marsh Avoidance Route (see *Figure C-2 and Figure A-16 in Appendix 2 to this EIR*)

Description

The Use of the Caltrans Bike Path would replace the directional drilling under the Sweetwater Marsh National Wildlife Refuge as proposed under the South Bay Power Plant to Sweetwater River Segment of the OMPPA Transmission Project in the City of Chula Vista. All other aspects of the OMPPA Transmission Project would remain unchanged.

This alternative was considered by SDG&E to avoid and minimize impacts to the Sweetwater Marsh National Wildlife Refuge. This alternative involves the undergrounding of the 230 kV line from the South Bay Power Plant as proposed in the amended project description, but would avoid the Refuge by exiting SDG&E's existing ROW near the proposed southern bore site near existing Tower 189503 and head east to the recently constructed Caltrans Bike Path west of the I-5. The Caltrans Bike Path is approximately eight to nine feet wide. The underground 230 kV transmission cable would continue north for approximately 0.5 mile along the bike path in Caltrans' existing rights-of-way and then transition overhead either on the south side or north side of the Sweetwater River where it would join the proposed OMPPA Transmission Project alignment. Because the bike path footbridge on the south side of the Sweetwater River would not be able to support the 230 kV facilities, the transition cable pole would be located at either the same transition cable pole site proposed under the amended OMPPA Transmission Project,

or the alternative would continue north under the Sweetwater River and transition overhead on a cable pole constructed on the north side of the river.

This alternative would include the following components:

- Installation of a new 230 kV line underground, within the bike path located within Caltrans' existing right-of-way; and
- Installation of a new 230 kV cable pole to transition the 230 kV line from overhead to underground. The transition cable pole would be located at either the same cable pole site proposed under the OMPPA Transmission Project or at a site on the north side of the Sweetwater River.

Rationale for Elimination

This alternative meets the CEQA screening criteria for project objectives, but does not meet the feasibility criteria for technical or regulatory considerations. While this alternative would avoid some of the potentially significant impacts of the OMPPA Transmission Project to the Sweetwater Marsh National Wildlife Refuge, this alternative was eliminated due to the technical and regulatory feasibility issues associated with undergrounding in the narrow bike path and the Caltrans right-of-way policies for not allowing longitudinal encroachments in restricted highways (I-5). Consequently, this alternative was eliminated from further EIR analysis.

C.5.10 Use of the Railroad Right-of-Way – Sweetwater Marsh Avoidance Route (see *Figure C-2 and Figure A-16 in Appendix 2 to this EIR*)

Description

This alternative was considered by SDG&E to avoid and minimize impacts to the Sweetwater Marsh National Wildlife Refuge. This alternative involves the undergrounding of the 230 kV line from the South Bay Power Plant as proposed in the amended project description, but would avoid the Refuge by exiting SDG&E's existing right-of-way and near the proposed southern bore site near existing Tower 189503 and head east to the existing Arizona and Eastern Railway Companies railroad right-of-way located west of the I-5. The railroad right-of-way is approximately 40 feet wide centered on the railroad tracks. The underground 230 kV transmission cable would continue north for approximately 0.5 mile within the railroad ROW and then transition overhead either on the south side or north side of the Sweetwater River where it would join the proposed OMPPA Transmission Project alignment. Because the existing railroad bridge would not be able to support the 230 kV facilities, the transition cable pole would be located at either the same transition cable pole site proposed under the amended OMPPA

Transmission Project, or the alternative would continue north under the Sweetwater River and transition overhead on a cable pole constructed on the north side of the river.

This alternative would include the following components:

- Installation of a new 230 kV line underground, within the railroad right-of-way; and
- Installation of a new 230 kV cable pole to transition the 230 kV line from overhead to underground. The transition cable pole would be located at either the same cable pole site proposed under the OMPPA Transmission Project or at a site on the north side of the Sweetwater River

Rationale for Elimination

This alternative meets the CEQA screening criteria for project objectives, but does not meet the environmental criteria or feasibility criteria for technical considerations. While this alternative would avoid some of the potentially significant impacts of the OMPPA Transmission Project due to proposed boring underneath the Sweetwater Marsh National Wildlife Refuge, this alternative could potentially generate more overall temporary impacts to sensitive habitats due to required construction practices (trenching and boring) along the entire railroad right-of-way located adjacent to the Refuge. Additionally, due to the lack of space and associated technical feasibility issues of placing the 230 kV cable within the narrow railroad ROW, this alternative has been eliminated from further consideration in this EIR.

C.5.11 East of I-5 Routing – Sweetwater Marsh Avoidance Route (see *Figure C-2* and *Figure A-16 in Appendix 2* to this EIR)

Description

This alternative would establish an underground route east of I-5 in existing roadways such as Broadway and National City Boulevard and bore underneath SR-54 and the Sweetwater River where it would transition to overhead and join the Proposed Project alignment.

Rationale for Elimination

This alternative does not meet the CEQA screening criteria for environmental considerations. While this alternative would avoid impacts to the Sweetwater Marsh National Wildlife Refuge, it would generate significant effects to sensitive residential neighborhoods and commercial/retail areas. This alternative would create six miles of new underground utility easement instead of using the existing SDG&E right-of-way. Additional significant impacts to noise, traffic, land use, hazardous materials and utilities would occur due to the additional trenching and boring

activities required over a six-mile length within a dense urban environment. There are also legal and regulatory feasibility issues associated with the need to secure easements and land rights. Consequently, this alternative was eliminated from further EIR analysis.

C.5.12 SDG&E's Route Segment Variation A – Sicard Street to Mission (see *Figure C-2 and Figures A-17a and A-17b in Appendix 2* to this EIR)

Description

SDG&E's Route Segment Variation A – Sicard Street to Mission Substation was developed by SDG&E and evaluated in the PEA (March 2004). This variation is a routing alternative to a portion of the 230 kV line proposed by SDG&E between the Miguel to Old Town Substations. Route Segment Variation A would replace the proposed OMPPA Transmission Project from the Sicard Street Transition Station to the Old Town Substation.

SDG&E's Route Segment Variation A – Sicard Street to Mission Substation Alternative would entail terminating the 230 kV line at the Mission Substation, rather than the Old Town Substation. Under this alternative, SDG&E has stated that approximately 6.5 miles of 230 kV line would be installed underground and 1.5 miles installed overhead on new transmission structures. The project alternative consists of the following components:

- Installation of approximately 6.5 miles of underground 230 kV line from the Sicard Street Transition Station to south of I-8, in Mission Valley
- Installation of a 230 kV transition cable pole south of I-8.
- Installation of approximately 1.5 miles of overhead 230 kV line, from the 230 kV transition station to the Mission Substation.

Rationale for Elimination

This alternative meets the CEQA screening criteria for project objectives and feasibility criteria but does not meet criteria for environmental considerations. While this alternative would avoid some of the significant impacts of the OMPPA Transmission Project, it would also cause significant visual, land use, noise, and traffic impacts to other areas of San Diego. Consequently, this alternative was eliminated from further EIR analysis.

C.5.13 SDG&E's Route Segment Variation B – Sicard Street to Mission (see *Figure C-2 and Figures A-18a and A-18b in Appendix 2 to this EIR*)

Description

SDG&E considered a variation to Route Segment Variation A – Sicard Street to Mission Substation that would avoid Balboa Park (PEA, March 2004). This routing alternative is termed 'Variation B' in the alternative screening report. The alternative would replace the proposed OMPPA Transmission Project from the Sicard Street Transition Station to the Old Town Substation.

The variation would consist of both overhead and underground segments, with 6.2 miles of underground 230 kV line installed within city streets, and 1.3 miles of overhead line installed on new steel pole structures. This alternative would entail terminating the 230 kV line at the Mission Substation, rather than the Old Town Substation, as proposed for OMPPA Transmission Project. SDG&E's Route Segment Variation B Alternative would entail construction of the following facilities:

- Installation of approximately 6.2 miles of underground 230 kV line from the Sicard Street Transition Station to south of I-8, in Mission Valley.
- Installation of a 230 kV transition cable pole station south of I-8.
- Installation of approximately 1.3 miles of new overhead 230 kV line, from the 230 kV transition station to the Mission Substation.

Rationale for Elimination

This alternative does not meet the CEQA screening criteria for technical feasibility or environmental considerations. Technical feasibility limitations are due to underground utility congestion along 30th Street. With respect to the environmental screening criteria, Route Segment Variation B would not lessen or avoid the significant impacts of the proposed OMPPA Transmission Project, but rather displace those effects to other sensitive residential neighborhoods. New significant, long-term land use and visual impacts would also result to mixed uses in Mission Valley, including impacts to area residents and travelers along I-8. Consequently, this alternative was eliminated from further EIR analysis.

C.5.14 Kettner Boulevard Underground Route Alternative (see *Figure C-2 and Figure A-20 in Appendix 2* to this EIR)

Description

The EIR Team developed an alternative route for the underground 230 kV line to minimize potential conflicts with the North Embarcadero Visionary Plan. This alternative was developed in response to recommendations made by the Center City Development Corporation during the NOP Scoping Process. Under this alternative, all aspects of the proposed OMPPA Transmission Project would remain the same, except for the routing of the Sicard Street to Old Town 230 kV underground line between the intersection of West Market Street and North Harbor Drive and the intersection of Laurel Street and Pacific Highway. Facilities and actions associated with this alternative include:

• Installation of approximately 1.3 miles of new underground 230 kV line in portions of Kettner Boulevard and Laurel Street in the City of San Diego

Rationale for Elimination

This alternative does not meet the CEQA screening criteria for feasibility or environmental considerations. Technical feasibility limitations are due to underground utility congestion along Kettner Boulevard. With respect to the environmental screening criteria, the Kettner Boulevard Underground Route Alternative would not lessen or avoid the significant impacts of the proposed OMPPA Transmission Project, but rather displace those effects to other commercial, retail and residential areas of the City of San Diego. Consequently, this alternative was eliminated from further EIR analysis.

C.5.15 SDG&E's New Alternative Routes – Miguel-Old Town, Miguel-Mission, Miguel-Sycamore Canyon and Miguel-Sicard Street

Description

SDG&E considered the feasibility of establishing a new right-of-way and overhead transmission structures and lines between the Miguel Substation and the following SDG&E substations/transition stations: Old Town, Mission, Sycamore Canyon and Sicard Street. No specific route was defined by SDG&E. These types of alternatives would require the following types of facilities and actions:

- Acquiring a new right-of-way, approximately 150 feet in width;
- Installing new double-line 230 kV transmission structures
- Installing a new 230 kV line

This type of alternative has not been sufficiently defined as an option to be carried forward for full EIR analysis, and as currently defined would not meet the CEQA screening criteria for environmental considerations. In addition, this type of alternative may not meet regulatory feasibility criteria due to anticipated regulatory constraints associated with establishing a new ROW in a highly urbanized area and may not meet all of SDG&E's stated objectives if the 230 kV line were not routed near the existing South Bay Substation area. Consequently, this alternative was eliminated from further EIR analysis.

C.5.16 Miguel-Main-Mission A Alternative (see Figure C-2 and Figures A-22a through A-22f in Appendix 2 to this EIR)

Description

The Miguel-Main-Mission A Alternative was originally considered by the CPUC in the Miguel-Mission #2 230 kV Transmission Project EIR (Final EIR, June 2004). This alternative was eliminated from consideration for the Miguel-Mission #2 230 kV Transmission Project EIR analysis, but was reconsidered for the OMPPA Transmission Project, based on SDG&E's stated objectives.

The Miguel-Main-Mission A Alternative would consist of overhead and underground components that would connect the proposed OMPPA 230 kV line between the Miguel Substation and the Mission Substation, as follows:

- Underground 230 kV lines would be installed for approximately 7.9 miles from the Miguel Substation to Bay Boulevard in Chula Vista. Along this segment, the following streets would be followed: San Miguel Road to Bonita Road to E Street to the intersection of E Street and Bay Boulevard,
- A transition station would be required near the intersection of E Street and Bay Boulevard to transition the 230 kV line from underground to overhead.
- Overhead 230 kV line would be installed on SDG&E's existing bridge structures, from a new E Street/Bay Boulevard Transition Station to the Main Street Substation.
- Underground 230 kV lines would be installed from the Main Street Substation to a point south of I-8. Approximately six miles of underground 230 kV lines would be installed along Harbor Boulevard., Pacific Coast Highway, Taylor Street, and Sunset Street.
- A second transition station would be installed near Sunset Street and Gaines Street, where this alternative would need to transition overhead.

- Approximately 0.3 mile of overhead 230 kV line would be installed on steel pole structures to cross the San Diego River and I-8 in the vicinity of the Old Town Substation.
- From the Old Town Substation, the 230 kV line would continue overhead for 3.75 miles to the Mission Substation. The overhead 230 kV line would be strung on one of two existing pole alignments, located on the north side of Friars Road.

The Miguel-Main-Mission A Alternative meets the screening criteria for project objectives and feasibility, but does not meet the screening criteria for environmental effectiveness. While this alternative would reduce potential visual impacts along the SDG&E right-of-way between the Miguel and South Bay substations, it would likely result in substantially greater impacts in other highly developed areas of Chula Vista and Mission Valley. Consequently, this alternative was eliminated from further EIR analysis.

C.5.17 Miguel-Main-Mission B Alternative (see *Figure C-2 and Figures A-23a through A-23g in Appendix 2* to this EIR)

Description

The Miguel-Main-Mission B Alternative was originally considered by the CPUC in the Miguel-Mission #2 230 kV Transmission Project EIR (Final EIR, June 2004). This alternative was eliminated from consideration for the Miguel-Mission #2 230 kV Transmission Project EIR analysis, but was reconsidered for the OMPPA Transmission Project, based on SDG&E's stated objectives.

The Miguel-Main-Mission B Alternative would consist of overhead and underground components that would connect the proposed OMPPA 230 kV line between the Miguel Substation and the Mission Substation, as follows:

- Underground 230 kV lines would be installed for approximately 7.9 miles from the Miguel Substation to Bay Boulevard in Chula Vista. Along this segment, the following streets would be followed: San Miguel Road to Bonita Road to E Street to the intersection of E Street and Bay Boulevard.
- A transition station would be required near the intersection of E Street and Bay Boulevard to transition the 230 kV line from underground to overhead.
- Overhead 230 kV line would be installed on SDG&E's existing bridge structures, from a new E Street/Bay Boulevard Transition Station to the Main Street Substation.

- Underground 230 kV lines would be installed from the Main Street Substation to a point south of I-8. Approximately 10.4 miles of underground 230 kV lines would be installed along 30th Street, University Avenue, Washington Avenue, Pacific Coast Highway, to near I-8.
- A second transition station would be installed near Sunset Street and Gaines Street, where this alternative would need to transition overhead.
- Approximately 0.3 mile of overhead 230 kV line would be installed on steel pole structures to cross the San Diego River and I-8 in the vicinity of the Old Town Substation.
- From the Old Town Substation, the 230 kV line would continue overhead for 3.75 miles to the Mission Substation. The overhead 230 kV line would be strung on one of two existing pole alignments, located on the north side of Friars Road.

The Miguel-Main-Mission B Alternative meets the screening criteria for project objectives and feasibility, but does not meet the screening criteria for environmental considerations. While this alternative would reduce potential visual impacts along the SDG&E right-of-way between the Miguel and South Bay substations, it would likely result in substantially greater impacts in other highly developed areas of Chula Vista, National City, San Diego and Mission Valley. Consequently, this alternative was eliminated from further EIR analysis.

C.5.18 Miguel-Mission Underground Alternative (see *Figure C-2 and Figures A-24a through A-24d in Appendix 2 to this EIR*)

Description

The Miguel – Mission Underground Alternative was originally considered by the CPUC in the Miguel-Mission #2 230 kV Transmission Project EIR (Final EIR, June 2004). This alternative was eliminated from consideration for the Miguel-Mission #2 230 kV Transmission Project EIR analysis, but was reconsidered for the OMPPA Transmission Project, based on SDG&E's stated objectives.

The Miguel – Mission Underground Alternative would consist of undergrounding the proposed 230 kV line, from the Miguel Substation to the Mission Substation, and would replace the OMPPA Transmission Project between the Miguel Substation and the Old Town Substation. Underground 230 kV lines would be installed for approximately 35 miles through unincorporated areas of San Diego County, and portions of the Cities of Lemon Grove and San Diego. This alternative would place the 230 kV lines in county and city streets, and require borings across the San Diego River.

The Miguel – Mission Underground Alternative meets the CEQA screening criteria for project objectives and feasibility, but does not meet the screening criteria for environmental considerations. In comparison with the Proposed Project, the construction associated with this 35-mile all-underground alternative would likely result in substantially greater adverse impacts to other residential areas of San Diego and La Mesa. Consequently, this alternative was eliminated from further EIR analysis.

C.5.19 Non – Wires - South Bay Repower Alternative Project

Description

The Non-Wires– South Bay Repower Alternative was developed in response to public comments during the NOP scoping process. Presently Duke Energy North America (Duke) is the operator of the South Bay Power Plant and the prospective developer of the South Bay Energy Facility. The South Bay Energy Facility is a project intended to replace the existing South Bay Power Plant near the end of this decade. One possible proposal for replacement of the existing power plant would be the installation of a new 630 MW facility located on Port of San Diego property just to the south of the existing facility. Duke is currently working with the Port, City of Chula Vista and other stakeholders and plans to file an application for licensing with the CEC in late 2005. To the extent that this project is completed it may possibly replace the need for 630 MW of other generation on the SDG&E system and thus could be considered as a replacement to the Otay Mesa generation and the associated transmission being considered in this document.

Rationale for Elimination

While this alternative would meet some of SDG&E's stated objectives, it would not support the delivery and dispatchability of power from the planned and approved OMGP. Furthermore, the legal and regulatory feasibility of this alternative is unknown, since the project has not been subject to CEC review and approval. As such, it is unlikely that this type of alternative could be constructed and in operation by 2008. Finally, while this alternative would have the potential to avoid some of the significant visual impacts of the OMPPA Transmission Project on the City of Chula Vista east of I-5, it would create new visual impacts for the City of Chula Vista's Bayfront that may, or may not be significant, depending on design.

C.5.20 Non –Wires - Energy Conservation and Demand Side Management

Description

The Non-Wires - Energy Conservation and Demand Side Management programs are designed to reduce customer energy consumptions. Regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. These programs are designed to either reduce the overall use of energy or to shift the consumption of energy to off-peak times.

Under the direction of the CPUC, SDG&E offers a number of energy conservation programs for customers, including financial incentives for installing specific energy-efficiency appliances or taking other measures to conserve energy. SDG&E also provides programs, such as inline energy profiling and in-home energy audits, to make customers more aware of their energy usage and of ways to conserve, as well as a variety of free brochures on improving energy efficiency.

Under this alternative the need for the Otay Power Plant and the associated transmission would be met through increased conservation and load management activities similar to those noted above.

Rationale for Elimination

Reductions in demand through related energy conservation programs are an important part of SDG&E's future operations and are incorporated into its long-term peak load forecasts. As separate and stand alone programs, however, these alternatives do not provide either the capacity or reliability needs of SDG&E, as stated in their project objectives. Furthermore, these alternatives would not provide for the delivery, or dispatchability of the OMGP, which is a primary objective of the project. For these reasons, this alternative has been eliminated from further consideration.

C.5.21 Non-Wires- Renewable Energy Resources

Description

California's Renewable Portfolio Standard (RPS) requires retail sellers of electricity to increase their procurement of eligible renewable resources by at least 1 percent per year so that 20 percent of their retain sales are procured from eligible renewable energy resources by 2017. The RPS Program was mandated by Senate Bill 1078 (SB 1078, Sher, Chapter 516, Statutes of 2002) under Public Utilities Code sections 381, 383.5, 399.11 through 399.15, and 445. The CPUC, in collaboration with the California Energy Commission (CEC), has initiated rulemaking to implement the State's Program for Investor-owned utilities (IOU) (R.01-10-024). On March 8,

2003, the CEC and the CPUC approved an Energy Action Plan in addition to the Renewable Portfolio Standard. The shared goal of the Energy Action Plan is to:

"Ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers."

The Renewable Resources Development Report (2003) prepared by the California Energy Commission, identifies renewable resources that are available to the SDG&E territory. These resources include wind and solar as the principal resources. Wind resources are more prevalent to the north, in the Altamont Pass, Tehachapi, and San Gorgonio areas of the state. Solar energy facilities are also located principally outside the SDG&E service territory, however, the southern portion of the State has the strongest solar resource potential.

At present, there are over 16,000 wind turbines in the U.S., with most of them located in California. In total, approximately 1,800 MW of electricity is generated from 105 separate wind farms. According to the San Diego Regional Energy Infrastructure Study (2002), San Diego could obtain significant amounts of wind power from the Laguna and Jacumba Mountains, located in eastern San Diego County. Class 5 and 6 winds are not uncommon in this region, and the study suggests that up to 500 MW of potential wind generation capacity could be developed over the next 30 years in the San Diego area. The main obstacle to utilizing wind generation is the lack of existing transmission infrastructure to transport the wind-generated power to the grid. In addition, wind energy technology requires approximately 5 to 6 acres per megawatt of wind power.

Currently there are two types of solar generation available: solar thermal power (also known as concentrating solar power) and photovoltaic (PV) power generation. At present, California generates approximately 345MW of power with solar thermal power plants, with the majority of these facilities being parabolic-trough electric plants installed in the Mojave Desert, due to the large tracks of land required for this technology. Photovoltaic (PV) power systems are available on a significantly smaller scale, and have received increased support from private and public sections since the 1970s. PV systems typically convert about 10 percent of the available solar energy to alternating current electricity, and require approximately one square kilometer (247 acres) for a 100MW rated power system.

Rationale for Elimination

Renewable resources for wind and solar energy programs are an important part of SDG&E's future operations and are incorporated into its long-term peak load forecasts. As separate and stand-alone programs, however, the renewable resource alternative does not provide either the

capacity or reliability needs of SDG&E, as stated in their project objectives. Furthermore, the renewable resource alternative would not provide for the delivery, or dispatchability of the OMGP, which is a primary objective of the project. For these reasons, this alternative has been eliminated from further consideration.

C.6 No Project Alternative

CEQA requires an evaluation of the No Project Alternative in order that decision makers can compare the impacts of approving the project with the impacts of not approving the project. According to CEQA Guidelines (Section 15126.6[e]), the No Project Alternative must include: (a) the assumption that conditions at the time of the Notice of Preparation (i.e., baseline environmental conditions) would not be changed since the Proposed Project would not be installed, and (b) the events or actions that would be reasonably expected to occur in the foreseeable future if the project were not approved. The first condition is described in the EIR for each environmental discipline as the "environmental baseline," since no impacts of the Proposed Project would be created. This section defines the second condition of reasonably foreseeable actions or events. The impacts of these actions are evaluated in each issue area's analysis in *Section D*.

Under the No Project Alternative, the OMPPA Transmission Project would not be built, thereby requiring the OMGP to either be directly connected to the Miguel 230 kV substation or resulting in the power plant not being constructed.

The power purchase agreement between SDG&E and Calpine for sale of the OMGP output requires that the transmission project be permitted and capable of being constructed by 2008 or the parties to the agreement may terminate the power purchase agreement. Such termination would result in the loss of the availability of the OMGP output for serving loads within the SDG&E load area and possible delay in the construction of the power plant. In either case, under the No Project Alternative, full output of the OMGP would no longer be available to SDG&E, thereby requiring SDG&E to either construct other generating projects, transmission facilities, or enter into other power procurement options in order to meet its ongoing load serving requirements.

It would be speculative to predict the type and location or schedule of development for new power plants and transmission needed to overcome the transmission system constraints remaining under the No Project Alternative. However, for purposes of this analysis, the No Project Alternative could include either of the following components or combination of components:

- Construction of new transmission facilities at either 500 kV or 230 kV requiring the development of a new transmission corridor from either the east or north into the San Diego region.
- Construction of additional regional generation.

Should the OMGP be constructed without the completion of the transmission project, the production from the OMGP will be subject to, and further aggravate, the existing congestion at the Miguel Substation. This would result in curtailments to the OMGP and increase curtailment of other generators in the area. The benefits and objectives noted in the project need would not be met under the No Project Alternative, leading to increased RMR costs as well as additional energy production costs for the SDG&E region.

D.1 INTRODUCTION TO ENVIRONMENTAL ANALYSIS

D.1.1 Introduction / Background

This section provides discussion and full public disclosure of the significant environmental impacts of the Proposed Project and alternatives, including the No Project Alternative. This section examines the potential environmental impacts associated with the Proposed Project as they relate to the following 12 areas of environmental analysis:

- D.2 Air Quality
- D.3 Biological Resources
- D.4 Cultural Resources
- D.5 Geology, Soils, and Paleontology
- D.6 Hydrology and Water Quality
- D.7 Land Use and Recreation
- D.8 Noise and Vibration
- D.9 Public Health and Safety
- D.10 Public Services & Utilities
- D.11 Socioeconomics
- D.12 Transportation and Traffic
- D.13 Visual Resources

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

- Addition of approximately 18 miles of new overhead 230 kV transmission line and new fiber optic line within existing SDG&E ROW between Sycamore Canyon Substation to Fanita Junction and Miguel Substation to South Bay Power Plant Area and Sweetwater River Transition Area to Sicard Street Transition Area.
- Addition of approximately ten miles of new 230 kV cable and new fiber optic line located underground primarily within SDG&E ROW between the South Bay Power Plant Area and the Sweetwater River Transition Area and within City of San Diego roadways between Sicard Street and SDG&E's Old TownSubstation.
- Addition of one transition station and two new transition cable poles.
- Modifications and additions to the Sycamore Canyon, Miguel and Old Town Substations to accommodate the new 230 kV line.

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

- Environmental Setting for the Proposed Project
- Applicable Regulations, Plans, and Standards
- Environmental Impacts and Mitigation Measures for the Proposed Project

- Environmental Impacts and Mitigation Measures for the Proposed Project Alternatives including the No Project Alternative
- Mitigation Monitoring, Compliance, and Reporting Table

In addition to the No Project Alternative, the following alternatives are fully analyzed in this EIR:

- Pacific Highway Bridge Attachment Design Alternative
- Sicard Street Transition Cable Pole Design Alternative
- Harbor Drive Bridge Attachment Design Alternative
- South Bay Power Plant Area to Sweetwater River Overhead Design Alternative
- Transmission System Alternative 7 PV1 Variation Miguel to South Bay Power Plant Area

D.1.2 Environmental Assessment Methodology

D.1.2.1 Environmental Baseline

Pursuant to CEQA Guidelines (Section 15125[a]), the environmental setting used to determine the impacts associated with the Proposed Project and alternatives is based on the environmental conditions that existed in the project area in July 2004 at the time the Notice of Preparation was published.

D.1.2.2 Environmental Consequences

The EIR evaluates the environmental consequences and potential impacts that the Proposed Project and the alternatives would create. The impacts identified were compared with predetermined, specific significance criteria, and were classified according to significance categories listed in each issue area. The same methodology was applied systematically to each alternative. A comparative analysis of the Proposed Project and the alternatives is provided in Section E of this document.

Once a significant impact was identified, diligent effort was taken to identify mitigation measures that would reduce the impact to a less than significant level. The mitigation measures recommended by this study are identified in the Mitigation Monitoring, Compliance, and Reporting table at the end of each individual area of environmental analysis (D.2 through D.13). For a discussion of the Mitigation Monitoring Program, refer to Section G.

Applicant Proposed Measures (APMs)

In the Proponent's Environmental Assessment (SDG&E 2004b), SDG&E identified a total of 66 measures and protocols or applicant proposed measures (APMs) that would be implemented to avoid or reduce potential impacts from the Proposed Project. During the preparation of this EIR, these measures were assumed to be part of the Proposed Project and are not considered as CPUC-recommended mitigation measures. However, SDG&E's APMs would be monitored by the CPUC as they will be compiled with the CPUC-recommended mitigation measures into the Final Mitigation Monitoring, Compliance, and Reporting Program, which will be completed upon adoption of the Final EIR. *Table B-4* in the Project Description provides a list of SDG&E's APMs.

Impact Significance Criteria

While the criteria for determining the significance of an impact are unique to each area of the environmental analysis, the following classifications were uniformly applied to each identified impact:

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

D.2 AIR QUALITY

This section addresses the Proposed Project and alternatives as they would affect air quality. *Section D.2.1* provides a description of the environmental setting, and the applicable air quality management plans, regulations, and requirements are introduced in *Section D.2.2*. An analysis of the Proposed Project impacts is provided in *Section D.2.3*, and the air quality impacts related to the project alternatives are described in *Section D.2.4*. Mitigation monitoring, compliance, and reporting are discussed in *Section D.2.5*.

D.2.1 Environmental Setting for the Proposed Project

This section presents a discussion of the regional climate and meteorological conditions and ambient air quality in the project area. A summary of the data from the Western Regional Climatic Center (WRCC, August 17, 2000) and the National Climatic Data Center (November 1998) was used to inventory meteorological and climatic conditions. A synopsis of Ambient Air Quality Standards (AAQS) was obtained from the California Air Resources Board (CARB). This data provided the state and federal standards. The San Diego Air Pollution Control District (SDAPCD) was contacted to obtain an inventory of the number of exceedances and the localized air quality measurements pertaining to the AAQS.

D.2.1.1 Climate and Meteorology

The semi-permanent Pacific High over the eastern Pacific Ocean dominates the climate in the project area. San Diego County has a subtropical climate. Summers are typically cool and winters are more mild near the ocean in comparison to locations further inland. Ambient temperatures occasionally occur below freezing or over 100°F. Peak temperatures increase away from the coast. During the winter months, the Pacific High weakens and migrates to the south allowing Pacific storms into California. The average annual rainfall within the project area is between 10 and 13 inches, most of which occurs between November and April.

The project area is within coastal and transitional climate zones of San Diego County. The prevailing climate is semi-arid to arid. The reduced humidity prevents some air quality problems associated with mold spores but increases the amount of dust and particulate matter in the air. Communities in this region experience frequent summer morning fog and clouds and moderate humidity. The prevailing winds through central San Diego County are generally from the west, but are greatly influenced by local topography. Occasional winter storms and offshore flows reverse the winds so that they flow from the east.

D.2.1.2 Existing Air Quality

Criteria Air Pollutants

With the assistance of the SDAPCD, the CARB compiles inventories and projections of emissions of the major pollutants and monitors air quality conditions. Air quality conditions are tracked for both "criteria air pollutants" and "toxic air contaminants." Criteria air pollutants refer to a group of pollutants for which regulatory agencies have adopted health-based ambient air quality standards and region-wide pollution reduction plans. Criteria air pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than ten microns in diameter (PM_{10}) and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and lead. Reactive and volatile organic compounds and gases (ROG) are also regulated as criteria pollutants because they are precursors to ozone formation.

Toxic air contaminants (TACs) refer to a category of air pollutants that pose a present or potential hazard to human health, but which tend to have more localized impacts than criteria pollutants. The CARB recently identified diesel particulate matter as the predominant TAC in California. Diesel particulate matter is emitted into the air via mobile vehicles that are diesel powered. Such vehicles include heavy-duty diesel trucks, construction equipment, and passenger cars. Certain ROGs may also qualify as TACs.

Ambient Air Quality

Historically, violations of federal and State ambient air quality standards for ozone, particulate matter, and CO have occurred throughout San Diego County. Since the early 1970s, substantial progress has been made toward controlling these pollutants. Although some air quality improvements have occurred, violations of ambient air quality standards for particulate matter and ozone are persistent. The frequency of the violations and the current air quality conditions for the project area are summarized for ozone, PM₁₀, and CO in *Table D.2-1*. The standards are discussed in more detail under *Section D.2.2.*, *Applicable Regulations, Plans and Standards*. Ambient air quality concentrations shown in *Table D.2-1* were measured at the Downtown San Diego and El Cajon ambient air quality monitoring stations. These air quality monitoring stations provide the most representative data to the project area.

		Ozo	ne	PM ₁₀			CO
Monitoring Location	Year	Days Over 1-Hr State Standard	Max 1-Hr (ppm)	Days Over 24-Hr State Standard	Max 24-Hr (µg/m3)	Annual Average (µg/m3)	Max 1-Hr (ppm)
El Cajon	1998	14	0.13	6	54	26.1	5.2
	1999	3	0.10	24	60	33.9	5.8
	2000	5	0.11	12	69	31.4	
	2001	3	0.12	41	84	37.0	
	2003	2	0.10	24	61	34.0	
Downtown San Diego	1998	1	0.10		48	26	7.7
	1999	0	0.9	-	69	33	7.1
	2000	1	0.12		65	34	7.2
	2001	1	0.10		66	31	7.0
	2002	0	0.9		85	35	5.0

TABLE D.2-1LOCAL AMBIENT AIR QUALITY MONITORING DATA

Source: San Diego Air Pollution Control District 2004.

Notes: State Standard = California Ambient Air Quality Standard (CAAQS)

ppm = parts per million

µg/m3 = micrograms per cubic meter; days over PM₁₀ CAAQS is calculated based on monitoring ever sixth day.

Border Region Air Quality

The California-Mexico border region surrounding San Diego County is characterized by air quality conditions that tend to be worse than in San Diego County itself. Imperial County (Calexico) leads the State in annual exceedances of the 24-hour PM_{10} National Ambient Air Quality Standards (NAAQS) and the 8-hour CO NAAQS. On the south side of the border, concentrations of PM_{10} exceed the U.S. Environmental Protection Agency (NAAQS) in Tijuana (approximately 12 times per year) and Mexicali (more than 150 times per year) (CARB, 2002b). Air quality problems in Tijuana and San Diego can be attributed to a combination of local emissions and emissions from the opposite side of the border (CARB, 2001).

Emission Inventory

Existing emission sources in the project area include a diverse range of stationary sources, mobile sources, and smaller sources that are distributed area-wide. Notable stationary sources along the proposed route include the industry along the shoreline of San Diego Bay including the South Bay

Power Plant in the City of Chula Vista. Mobile emission sources are commonplace throughout the project area, including on-highway motor vehicles, heavy mobile equipment used for off-road purposes (e.g., construction equipment), aircraft, and railroad locomotives. CARB compiles region-wide emission inventories that include planning and forecast estimates for each of these groups of sources.

Power of the existing electrical system is provided by generators within San Diego County, southern California, and generators south of the California-Mexico border. Although power plants are an easily recognizable source of pollution, they represent only a small fraction of the California emission inventory for NO_x and PM₁₀ (CEC, 2003). Generation is provided by power plants that range in age and technology. Most recent additions to the in-State power plant fleet generally feature combined-cycle combustion turbines or simple-cycle combustion turbines (examples of both types have recently been approved in Otay Mesa and Escondido). *Table D.2-2* summarizes the notable sources that provide (or are expected to provide) the majority of power to the electrical system of the project area.

			Available	NOx	PM10	CO
Power Plant	Location	Type of Facility	Rating (MW)*	Emissions (lb/MW-hr)*	Emissions (Ib/MW-hr)*	Emissions (lb/MW-hr)*
Existing Major Power Plan	ts					
Duke – South Bay	Chula Vista	Multi-fuel boiler/ turbine	693	0.44 est.	0.07	1.59
SDG&E – Encina	Carlsbad	Multi-fuel boiler/turbine	965	0.37 est.	0.06	0.84
SCE – San Onofre	San Onofre	Nuclear	2,150	0.002	<0.001	0.001
Existing Peaker Plants						
Intergen – Larkspur	Otay Mesa	Gas-fired turbine	90	0.17	0.07	0.12
Intergen – Larkspur	Otay Mesa	Liquid-fuel backup	90	0.36	0.29	0.12
Calpeak – Border	Otay Mesa	Gas-fired turbine	49.5	0.12	0.07	0.15
Calpeak – Escondido	Escondido	Gas-fired turbine	49.5	0.21	0.07	0.15
Recently Approved Power	Plants					
Calpine – Otay Mesa	Otay Mesa	Gas-fired turbine	510	0.06	0.07	0.11
Sempra – Palomar	Escondido	Gas-fired turbine	546	0.05	0.05	0.07
Imported from Mexican Po	wer Plants					
Intergen – La Rosita Power Complex	Mexicali	Gas-fired turbine	560	0.11	0.17	0.38
Sempra – Thermoelectric de Mexicali	Mexicali	Gas-fired turbine	600	0.06	0.08	0.06
Other Generation Sources						
California fleet average (2001)	Statewide	Load-following		0.38		
California fleet average (2001)	Statewide	Any fired fuel		0.45	0.29	
Steam boilers retrofit for Rule 69	Any San Diego Co.	Gas-fired boiler		0.15		
Steam boilers retrofit for Rule 69	Any San Diego Co.	Liquid-fuel boiler		0.40		

TABLE D.2-2 NOTABLE GENERATION SOURCES IN OMPPA TRANSMISSION PROJECT AREA

Railings and Emission Factors are provided for information purposes only. Depending on availability of data, emission factors are calculated based on permit limits and licensed rating or actual emissions reported to the SDAPCD and estimated availability.

Source: CPUC 2004

D.2.2 Applicable Regulations, Plans, and Standards

D.2.2.1 Ambient Air Quality Standards

Air quality is analyzed by measuring ambient concentrations of criteria pollutants, which are air pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The ambient concentrations are then compared to the current National and California Ambient Air Quality Standards. Because of unique meteorological conditions in California, and because of differences of opinion by medical panels established by CARB and the U.S. EPA, there is diversity between State and federal standards currently in effect in California. In general, the California AAQS (CAAQS) are more stringent than the corresponding NAAQS. The standards currently in effect in California are shown in *Table D.2-3*. To date, ambient air quality standards have not been adopted for air toxics; instead, data are used to estimate potential health risk and to determine the need for control measures to reduce air toxic emissions from specific sources.

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	0.12 ppm
(O ₃)	8-hour		0.08 ppm
Respirable particulate matter	24-hour	50 µg/m³	150 µg/m ³
(PM ₁₀)	Annual mean	20 µg/m ³	50 µg/m ³
Fine particulate matter	24-hour		65 μg/m ³
(PM _{2.5})	Annual mean	12 µg/m³	15 µg/m³
Carbon monoxide	1-hour	20 ppm	35 ppm
(CO)	8—hour	9.0 ppm	9.0 ppm
Nitrogen dioxide	1-hour	0.25 ppm	
(NO ₂)	Annual mean		0.053 ppm
Sulfur dioxide	1-hour	0.25 ppm	
(SO ₂)	24-hour	0.05 ppm	0.14 pm
	Annual mean		0.03 ppm

 TABLE D.2-3

 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Notes: ppm = parts per million; $\mu g/m^3 =$ micrograms per cubic meter; "—" = no standard

Source: CARB Ambient Air Quality Standards Table, updated July 2003 and U.S. EPA, 2001

Air quality standards are designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work from specific sources. *Table D.2-4* provides a summary of the health effects from the major criteria air pollutants.

TABLE D.2-4

SUMMARY OF HEALTH EFFECTS OF THE MAJOR CRITERIA POLLUTANTS

Air Pollutant	Primary Health Effects
Ozone (O ₃)	 Aggravation of respiratory and cardiovascular diseases Impairment of cardiopulmonary function Eye irritation
Respirable and fine particulates (PM ₁₀ and PM _{2.5})	 Increased risk of chronic respiratory disease Reduced lung function Increased cough and chest discomfort Particulate matter 10 microns or less in size (PM10) may lodge in and/or irritate the lungs
Carbon monoxide	 Impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin Aggravation of cardiovascular disease Impairment of central nervous system function Fatigue, headache, confusion, dizziness Death at high levels of exposure Aggravation of some heart diseases (angina)
Nitrogen dioxide (NO ₂)	Risk of acute and chronic respiratory disease
Sulfur dioxide (SO ₂)	 Aggravation of respiratory diseases (asthma, emphysema) Reduced lung function Irritation of eyes

Source: South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.

D.2.2.2 Attainment Status

The CARB designates those portions of the State where federal or State ambient air quality standards are not met as "non-attainment" areas. *Table D.2-5* summarizes the air quality attainment status for the San Diego Air Basin. Where a pollutant exceeds standards, the federal and State Clean Air Acts require air quality management plans that demonstrate how the standards will be achieved. These laws also provide the basis for the implementing agencies to develop mobile and stationary source performance standards. The regulatory programs are discussed below.

TABLE D.2-5ATTAINMENT STATUS OF SAN DIEGO AIR BASIN

	Ozone		PM10		CO		NO ₂		SO ₂	
Air Basin	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal
San Diego	Serious Non- attainment	A	N	A	A	A	A	A	A	A

Note: A = Attains Ambient Air Quality Standards; N = Non-attainment

Source: CARB, 2003 (http://www.arb.ca.gov/desig/desig.htm) and U.S. EPA, 2004 (http://www.epa.gov/region09/air/).

D.2.2.3 Air Quality Plans and Regulations

The federal Clean Air Act, as amended, and the California Clean Air Act both require that air quality management plans be formulated demonstrating how the ambient air quality standards will be achieved in non-attainment areas. These laws also provide the basis for the implementing agencies to develop mobile and stationary source performance standards.

The SDAPCD is the primary agency responsible for planning, implementing, and enforcing federal and State ambient standard within the County. In order to demonstrate how the area will eventually meet the standards, the SDAPCD maintains the Regional Air Quality Strategy (RAQS). The RAQS is a compilation of measures and regulations that govern how the region will manage ozone precursors (NO_x and volatile organic compounds or VOCs) to eventually attain and maintain the ozone standard. No State plan is required to meet State PM_{10} standards.

Emissions limitations are imposed upon sources of air pollutants by rules and regulations promulgated by the federal, State, or local agencies. Mobile sources of air pollutants and exhaust from off-road equipment are controlled by federal and State agencies through emission performance standards and fuel formulation requirements and are exempt from SDAPCD rules and regulations (Regulation XIV, Appendix A – Insignificant Units). Mobile and portable sources and temporary activities that cause emissions of air contaminants are managed through a range of local, State, and national programs mentioned below. Operation of emission sources will not interfere with progress in attainment of State and national ambient air quality standards, provided that they are compliant with the following programs:

- U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program. The California Clean Air Act mandates CARB to achieve the maximum degree of emission reductions from all off-road mobile sources in order to attain the State ambient air quality standards. Off-road mobile sources include construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996.
- **CARB Portable Equipment Registration Program.** This program allows owners or operators of portable engines and associated equipment to register their units under a statewide portable program to operate their equipment throughout California without having to obtain individual permits from local air districts.
- **SDAPCD Regulation IV Prohibitions, Rule 50 Visible Emissions.** This rule prohibits any activity causing air contaminant emissions darker than Ringelmann Number 1 (20 percent opacity) for more than an aggregate of three minutes in any consecutive 60 minute time period.

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

D.2.2.4 Border Region Air Quality Management

The U.S. EPA and CARB are participating in air quality management activities in the California-Mexico border region. Domestic efforts to manage air quality in the region include ambient air monitoring, vehicular emissions studies, and heavy-duty diesel vehicle inspections in the region (CARB, 2002b). Another recent focus of air quality management is related to power plants operating south of the border. The participants in the Border 2012 U.S. – Mexico Environmental Program recognize that energy trade affects air quality in the border region and that more work with federal, State, and local governments in both countries as well as non-governmental organizations, businesses, and citizens is necessary to address the linkage of energy trade and air quality (U.S. EPA, 2003). In the past, local businesses, the U.S. EPA, and its Mexican federal counterpart, the Secretariat of Environment, Natural Resources, and Fisheries (SEMARNAP), have defined efforts to implement the use of natural gas instead of fuel oil at a major existing power plant in Rosarito (U.S. EPA, 2000) and study emissions from a geothermal power plant near Mexicali (U.S. EPA, 1999). Through the Border 2012 program, the U.S. EPA aims to develop additional specific emission control strategies in 2004.

D.2.2.5 Toxic Air Contaminants

Toxic air contaminant are regulated because they are suspected or known to cause cancer, birth defects, neurological damage, or death. There are no established ambient air quality standards for toxic air contaminants. Instead, they are managed on a case-by-case basis depending on the quantity and type of emissions and proximity of potential receptors. State-wide and local programs identify industrial and commercial emitters of toxic air contaminants and require reduction in these emissions. There are also federal programs that require control of certain categories of TACs. As discussed previously, the CARB recently identified diesel particulate matter as a TAC. In October 2000, the CARB released the *Risk Reduction Plan to Reduce Particulate Matter Emission from Diesel-Fueled Engines and Vehicles*. This plan identifies diesel particulate matter as the predominant TAC in California and proposed various methods for reducing diesel emissions from mobile equipment.

D.2.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.2.3.1 Definition and Use of Significance Criteria

Significance criteria for impacts to air quality were developed based on Section 15065 and Appendix G of the CEQA Guidelines and Section 21083 of the Public Resources Code. Air quality impacts would be considered significant if the project would:

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

To determine whether a significant impact would occur during construction, the SDAPCD informally recommends quantifying construction emissions and comparing them to thresholds found in the SDAPCD regulations for stationary sources. If emissions during project construction would exceed the thresholds that apply to stationary sources, then construction activities would have the potential to violate air quality standards or contribute substantially to existing violations. Emissions from project operations may also be quantified and compared to thresholds. The stringent recommendations of the South Coast Air Quality Management District are used here in lieu of specific recommendations from SDAPCD. Total operational emissions for comparison with these thresholds includes all emissions from motor vehicle use and stationary sources associated with the project. The significance thresholds are shown in *Table D.2-6*.

Significance Thresholds	NO _x (lb/day)	PM ₁₀ (Ib/day)	CO (lb/day)	SOx (Ib/day)	ROC (lb/day)
Construction Significance	250	100	550	250	55
Operation Significance	55	150	550	150	55

TABLE D.2-6AIR QUALTY SIGNIFICANCE THRESHOLDS

Source: SDAPCD, Rule 20.2(d)(2) for construction and South Coast Air Quality Management District CEQA Air Quality Handbook for operation. Rule 20.2 does not have a threshold for reactive organic compounds (ROC); however, the City of San Diego has adopted a threshold of 55 lbs/day based on the South Coast Air Quality Management District's (SCAQMD) significance threshold (*City of San Diego California Environmental Quality Act Air Quality Guidelines, June 2003*).

D.2.3.2 Applicant Proposed Measures

Table D.2-7 shows the APMs proposed by SDG&E to reduce air quality impacts associated with construction.

	TABLE D.2-7 APPLICANT PROPOSED MEASURES							
APM No.	Description							
56	The following protocols would be employed to minimize the release of PM ₁₀ : prohibiting construction grading on days when the wind is significant, where feasible; covering all trucks hauling soil and other loose material, or require at least two feet of freeboard; erecting snow-fence type windbreaks in areas identified, as needed, by SDG&E limiting vehicle speeds to 15 miles per hour on unpaved roads; treating unpaved roads with chemical stabilizers or by watering, as necessary; applying soil stabilizers to inactive construction areas on an as needed basis; and placing perimeter silt fencing, watering as necessary, or adding soil binders to exposed stockpiles of soil and other excavated materials.							
57	To minimize mud and dust from being transported onto paved roadway surfaces, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.							
58	To the extent feasible, any other air pollution control measures approved by the district and the Environmental Protection Agency as equivalent may be used.							
59	If suitable park and ride facilities were available in the project vicinity, construction workers would be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the project's construction schedule.							
60	To the extent feasible, unnecessary construction vehicle and idling time would be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project would apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off. Construction foremen would include briefings to crews on vehicle use as a part of preconstruction conferences. Those briefings would include discussion of a "common sense" approach to vehicle use.							

Source: SDG&E, March 2004, amended November 2004.

D.2.3.3 230 kV Overhead Transmission Line

Construction Air Emissions

Construction activities can be grouped into those occurring on-site and off-site. Air pollutant emissions during on-site construction would principally consist of fugitive particulate matter (dust) generated from travel on unpaved surfaces and material handling and exhaust emissions from mobile diesel and gasoline-powered construction equipment. Offsite exhaust emissions would result from workers commuting to staging areas, transporting workers from staging areas to the work sites, trucks hauling materials (e.g., concrete, tower materials, and conductors) to the work sites, and dump trucks hauling away construction debris (e.g., dirt displaced by new tower foundations and underground excavation).

SDG&E proposes to use a range of equipment to construct the project. Although some pieces of equipment may be powered electrically, each piece of heavy equipment could be a source of exhaust emission and much of the equipment would be operating simultaneously at various points along the project alignment. Project Description (*Section B.3.6*) describes the various equipment used during construction. *Table D.2-8* lists the type and quantity of equipment as well as emission rates for the inventoried equipment anticipated for construction of the overhead and underground portions of the transmission line as well as construction of the transition station and proposed substation modifications. Peak day construction estimates for project construction are presented in *Table D.2-9*.

Operational Air Emissions

Once construction is complete, operational emissions would result from vehicle use that would be necessary for periodic inspection, maintenance, and repair of the project components. No stationary emissions sources would be associated with the project, and the minor mobile source emissions would be the only direct source of emissions related to project operation. General inspections presently occur for the existing transmission lines within the SDG&E ROW and presently cause small amounts of light and medium-heavy duty truck traffic. The Proposed Project would not require a substantial number of new vehicle trips compared to the existing conditions. It is anticipated that no new permanent employees would be needed to operate the Proposed Project. The quantity of emissions that would be caused by project vehicular traffic for inspection and maintenance activities would have no identifiable effect to air quality.

TABLE D.2.8TYPICAL CONSTRUCTION EQUIPMENT EMISSIONS

	Maximum Number	Emission Factor (Pounds/Day) ¹				
Equipment Type	Needed Concurrently	СО	ROG	NOx	PM ₁₀	
Grading and Site Preparation						
Bulldozers	1				0.2	
Excavator	2	5.4	1.2	13.6	1.1	
Loader	1	1.6	0.8	6.6	0.5	
Grader	1	5.4	1.2	13.6	1.1	
Dump/Utility Trucks	4	5.4	1.2	13.6	1.1	
Compactor	1	5.4	1.2	13.6	1.1	
Water Truck	1	5.4	1.2	13.6	1.1	
Backhoes	1	5.4	1.2	13.6	1.1	
Concrete Trucks	4	5.4	1.2	13.6	1.1	
Construction						
Cranes	1	5.4	1.2	13.6	1.1	
Crew Trucks	3	5.4	1.2	13.6	1.1	
Boom, Bucket, Overhead Line and Underground Line Trucks	8	5.4	1.2	13.6	1.1	
Ditch Witch	1	5.4	1.2	13.6	1.1	
Cable Dolly and Stringing Rig	2	5.4	1.2	13.6	1.1	
Low Boy Truck	1	5.4	1.2	13.6	1.1	

¹ Assuming an 8-hour work day.

Source: SDG&E PEA March 2004, SDG&E November 2004, South Coast Air Quality Management District, 2003.

CO carbon monoxide ROG Reactive organic gases NOx Nitrogen oxides PM₁₀ Fugitive dust --- Not applicable.

TABLE D.2.9

TOTAL DAILY PEAK CONSTRUCTON AIR EMISSIONS OVERHEAD AND UNDERGROUND TRANSMISSION LINE SUBSTATION MODIFICATIONS AND TRANSITION/CABLE POLE WORK

Pollutant	Total Pounds (Pounds/Day)	Threshold (Pounds/Day)	Threshold Exceeded
Grading/Site Preparation			
СО	77.2	550	No
ROG	17.6	250	No
NOx	197.0	250	No
PM ₁₀	16.1	250	No
Construction			
СО	86.4	550	No
ROG	19.2	250	No
NOx	217.6	250	No
PM1 ₀	17.6	250	No

Sources: SDG&E PEA March 2004; SDG&E November 2004; SCAQMD CEQA Air Quality Handbook 1993; California Air Resources Board, 2001; San Diego Air Pollution Control District, 2003.

СО	carbon monoxide
ROG	Reactive organic gases
NOx	Nitrogen oxides
PM10	Fugitive dust

Impact A-1: Violation of Air Quality Standard or Substantial Contribution to an Existing or Projected Air Quality Violation

Construction

Construction activities would occur over a period of 24 months and be short-term and temporary. Construction emissions would come from heavy equipment exhaust, construction-related trips by workers, material-hauling trucks, and associated fugitive dust generations from clearing, grading, and trenching activities.

The principal pollutant of concern would be PM_{10} and ozone precursor emissions ROC and NOx. *Table D.2-9* provides daily peak estimated project emissions during construction. As shown in *Table D.2-9*, total daily peak construction emissions are not anticipated to exceed identified significance thresholds, and would not violate air quality standards, therefore impacts due to construction emissions would be less than significant (Class III). In addition, SDG&E has proposed APM-56 through APM-60 to further reduce PM_{10} and construction equipment emissions during construction.

Operation

Once operational, the Proposed Project would not generate any air emissions beyond those associated with maintenance and repair of the project. The small number of vehicle trips (two to four trips per day) required for maintenance and operation would not exceed the thresholds of significance identified above and therefore would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Impact A-2 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Carbon Monoxide (CO) Hot Spots

The SDAPCD defines sensitive receptors as residential areas, schools, playgrounds, health care facilities, day care facilities, and athletic facilities. As described *in Section D.7, Land Use,* sensitive receptors are located throughout the project alignment, particularly between the Miguel Substation and South Bay Power Plant.

As further discussed in *Section D.12-Transportation/Traffic* based on the current level of traffic on nearby roadways, the short-term construction activities associated with the proposed project, would not create traffic congestion that could create substantial carbon monoxide (CO) hot spots. Furthermore, as the Proposed Project is not expected to release any air emissions during operation beyond that required for routine maintenance and repair, and short-term emissions during construction would not exceed identified thresholds (see *Table D.2-9*); sensitive receptors located within the project vicinity would not be exposed to substantial pollutant concentrations or associated health effects as listed in *Table D.2-4*. In addition, SDG&E has included APMs 56 through 60 into the project that would further reduce impacts. Therefore, emissions associated with the Proposed Project would have a less than significant impact to sensitive receptors (Class III).

Air Toxics

Diesel exhaust particulate matter would be emitted from heavy equipment used in the construction process. Because diesel exhaust particulate matter is considered to be carcinogenic, long-term exposure to diesel exhaust emissions could result in adverse health impacts. Implementation of the proposed project would result in short-term, temporary emissions of diesel exhaust from construction equipment. The emissions would not occur 24 hours per day, seven days per week, but would be more likely to occur during working hours with varying uses over that time of equipment and vehicles dependent on diesel fuel. Because of the temporary short-term nature and frequency of

construction emissions, diesel exhaust particulate matter would not expose sensitive receptors to substantial pollutant concentrations and therefore, would result in a less than significant impact (Class III). With respect to operations, no identifiable impacts associated with diesel exhaust particulate matter would result due to the very infrequent activities; i.e., maintenance, patrolling inspection, and occasional repairs.

Impact A-3 Create Objectionable Odors

Construction activities could generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust). These emissions would be isolated to the immediate vicinity of the construction site, and would be limited to a finite period of time that would be relatively short duration. Total construction would take up to 24 months. Operation is not anticipated to create objectionable odors. As such, impacts related to creation of odors during construction and operation of the project would be less than significant (Class III). In addition, SDG&E has proposed APM 60 which would minimize unnecessary construction vehicle and idling time and associated airborne odors.

Impact A-4 Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

Regional planning efforts to improve air quality include a variety of strategies to reduce emissions from motor vehicles and minimize emissions from stationary sources. As discussed in *Section D.2.2*, the SDAPCD is the agency principally responsible for comprehensive air pollution control in San Diego County. The SDAPCD develops rules and regulations, establishes permitting requirements for stationary sources, inspects sources, and enforces such measures through educational programs or fines, when necessary.

The applicable air quality plan for San Diego County is the RAQS. The RAQS is based on San Diego Association of Governments (SANDAG) growth forecasts for the region, and incorporates measures to meet state and federal requirements. Significance of air quality impacts is based on the degree to which the project is consistent with SANDAG's growth forecasts. If a project is consistent with growth forecasts, its resulting impacts were anticipated in the RAQS and are considered to be less than significant. Growth forecast in the RAQS is based on approved General Plans, Community Plans, and Redevelopment Plans.

As discussed in *Section D.7, Land Use/Planning*, the proposed project is consistent with the designated use of SDG&E's ROW and proposed utility use within city streets, and would not alter or introduce new conflicts with land use designations. The project does not include development of new homes or businesses and therefore, as further discussed in *Section D.11, Population/Housing*, and *Section F.1 Growth Inducing Effects*, would not induce population growth in the SDAB. As shown

in *Table D.2-9*, emissions during construction of the project would be less than the SCAQMD's recommended thresholds of significance, and operation of the project would result in very minimal emissions from occasional vehicle trips to maintain the project facilities. The types and quantities of construction equipment that would be used for the proposed project would be typical of the industry and would not be of sufficient magnitude in quantity to exceed those assumptions used in the preparation of construction equipment emissions in the RAQS. Because the RAQS has accounted for construction-related emissions, construction emissions generated by the proposed project would be consistent with those included in the emissions inventory of the RAQS and, therefore, would be consistent with construction-related emissions projected in the RAQS. Furthermore, APM-56 through APM-60 incorporate measures to reduce construction emissions consistent with the RAQS. Hence, the threshold of significance (i.e., conflict with or obstruct implementation of the applicable air quality plan) would not be exceeded and no impact would result.

Impact A-5: Transmission Line Operation Would Cause Emissions from Power Plants

The stated project objectives include increasing access to generating capacity from the OMGP. This may in turn reduce constraints of SDG&E's Miguel Substation and therefore allow more efficient use of the grid by a network of generators. The approved OMGP was evaluated (including resulting air emissions) in accordance with CEOA (CEC Decision Docket No. 99-AFC-5 2001). However, indirect air quality impacts could be related to the OMPPA Transmission project, transmission capacity not used by the OMGP could be used to increase the region's capability of importing power. A significant transmission bottleneck currently exists at SDG&E's Miguel Substation and is expected with or without the OMPPA Transmission Project and therefore any resultant increase in transmission capacity to import power would not be substantial. Any additional imported power delivered to the project area could occur at electrical generation facilities (including nuclear and natural gas-fired power plants) inside and outside of the region. These sources could include new and recently approved gas-fired combustion turbine power plants in the U.S. and Mexico (NOx emissions generally between 0.05 and 0.12 lbs per MW-hr) and existing multi-fuel boiler power plants in the San Diego region (NOx emissions generally around 0.4 lbs per MW-hr). The notable possible sources of power and their associated emission rates (per MW) are summarized in Table D.2-2.

Demand for electricity would not change as a result of the Proposed Project, and power generated in response to the demand would occur regardless of whether the Proposed Project is approved or disapproved. It is foreseeable that emissions could increase at some plants as they serve demand through use of transmission capacity that may be made available due to the Proposed Project transmission system; however, other plants connected to the transmission grid might need to decrease operations, and consequently emissions, or change operations if increased competition forces them to shut down or serve demand elsewhere through other transmission facilities. By

reducing constraints to the existing electrical system, the Proposed Project would generally improve the ability of power generators to respond to the demand. Therefore, the Proposed Project itself would not increase emissions.

Growth in electricity demand, although unrelated to the Proposed Project, could result in new power plant emissions in the future. Emissions from foreseeable future power generation within California would be subject to local air pollution control district requirements and CEQA.¹ This means that domestic power plant emissions would likely be publicly reviewed and mitigated to avoid significant impacts and ensure consistency with local air quality management goals and attainment plans. Other discretionary projects in the U.S. related to obtaining power from Mexico would similarly be subject to the requirements of the National Environmental Policy Act (NEPA process).²

The impact of emissions from power plants due to operation of the Proposed Project would be less than significant (Class III) because the project would not change the demand for power, and the project would generally improve the efficiency of delivering power from the approved OMGP by reducing constraints on the grid. It is also worth reiterating that, as described above, emissions from power plants that may be connected to the grid in the future would also be subject to subsequent environmental review.

D.2.3.4 230 kV Underground Cable

Construction of the underground portion would cause short-term emissions of dust and equipment exhaust, as discussed in *Section D.2.3.3*. Trenching and excavation would involve earth moving operations and soil disturbance and would generate more exhaust and dust emissions per mile than overhead line construction. Equipment exhaust could contribute to ongoing regional violations of the ambient air quality standards for particulate matter and ozone. The equipment that would be used for underground work, is shown in *Table D.2-8*, and total daily peak construction air emissions for both overhead and underground construction combined are quantified in *Table D.2-9*, above.

Construction and operational air quality impacts A-1 through A-5 discussed under *Section D.2.3.3* for the overhead transmission line are also applicable to the construction and operation of the proposed underground cable portion of the project. Even though installation of the underground cable would generate more exhaust and dust emissions per mile than overhead line construction, as

¹ Information related to the California Power Plant and Energy Facilities Licensing Process is publicly available at <u>http://www.energy.ca.gov/sitingcases/index.html</u>. For example see: California Energy Commission, Final Decision, Otay Mesa Generating Project, April 2001 (Docket No. 99-AFC-5).

² Information related to the U.S. Department of Energy NEPA review process for transmission lines across the U.S. border with Mexico is publicly available (FE Docket Nos. PP-234 and PP-235). For example see: Environmental Assessment for Presidential Permit Applications for Baja California Power, Inc., and Sempra Energy Resources, December 2001 (DOE/EA-1391). Also: Notice of Intent to Prepare an Environmental Impact Statement (Vol. 68, Federal Register, p. 61796, October 30, 2003).

shown in *Table D.2-9*, total daily peak construction emissions (combined overhead and underground construction) are not anticipated to exceed identified significance thresholds. Therefore, air quality impacts A-1 through A-5 associated with construction and operation of the underground cable would be less than significant (Class III). APMs 56 through 60 would also be applicable to the construction of the proposed underground cable and would further reduce PM_{10} and construction equipment emissions during construction.

D.2.3.5 Transition Station and Transition Cable Poles

Construction activities at the transition station and transition cable poles would involve many of the same types of construction equipment that would be associated with construction of the overhead transmission line. *Table D.2-9* shows estimates of the unabated emissions from all equipment related to construction of the entire project including the proposed transition station and transition cable poles.

Construction and operational air quality impacts A-1 through A-5 discussed under *Section D.3.3* for the overhead transmission line are also applicable to the construction and operation of the proposed transition station and transition cable poles. APMs 56 through 60 would also be applicable to the construction of these facilities and would ensure the associated construction emissions would have a less than significant impact to air quality (Class III).

D.2.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

Construction activities at the substations would involve many of the same types of construction equipment that would be associated with construction of the transmission line and transition station. *Table D.2-9* shows estimates of the unabated emissions from all equipment related to construction of the entire project including proposed substation work.

Construction and operational air quality impacts A-1 through A-5 discussed under *Section D.2.3.2* for the overhead transmission line are also applicable to the construction and operation of the proposed modifications to the existing substations. APMs 56 through 60 would also be applicable to the construction of proposed modifications to the existing substations underground cable and would ensure that associated construction emissions would have a less than significant impact to air quality (Class III).

D.2.4 Project Alternatives

D.2.4.1 SDG&E Design Option Alternatives (*Pacific Highway Bridge Attachment,* Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.2.1 describes the air quality characteristics of the region. Because SDG&E's design option alternatives would occur in the same air basin as the Proposed Project, the existing air quality conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching would be required over the Proposed Project. This additional trenching within paved roadways would be short-term (less than two weeks) and would not substantially increase the dust emissions and equipment emissions (Impacts A-1 through A-3) described in *Section D.2.3* for the Proposed Project. The method of construction (i.e., more underground work) associated with this alternative would cause more excavation activities near commercial and industrial uses and would not affect sensitive receptors. Implementation of APM 56 through APM 60 would further reduce air quality impacts (A-1 through A-3) associated with construction of the Pacific Highway Bridge Attachment Design Alternative to less than significant (Class III).

Air quality impacts resulting from operational impacts (A-4 and A-5) would remain unchanged from impacts described in *Section D.2.3* for the Proposed Project, which were determined to be less than significant (Class III).

Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment Design Alternatives: The air quality impacts for these alternative design options would not be significantly different from the Proposed Project. Localized short-term construction emissions would occur in the same manner as described in *Sections D.2.3.4* and *D.2.3.5* for the Proposed Project (Impacts A-1, A-2 and A-3). Implementation of APMs 56 through 60 would reduce air quality impacts associated with the construction of the Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment to less than significant (Class III). Air quality impacts resulting from operation (A-4 and A-5) would remain unchanged from impacts described in *Section D.2.3* for the Proposed Project, which were determined to be less than significant (Class III).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: This alternative would eliminate the underground work along this segment, decreasing the adverse effects of dust and equipment emissions (Impacts A-1 through A-3) described in *Section D.2.3.4* for the Proposed Project, and replace it with emissions related to bridge structure modifications and overhead construction. Implementation of APMs 56 through 60 would reduce air quality impacts associated with construction of the South Bay Power Plant to Sweetwater River Overhead Option to a level less than significant (Class III). Air quality impacts resulting from operation (A-4 and A-5) would remain unchanged from impacts described in *Section D.2.3* for the Proposed Project, which were determined to be less than significant (Class III).

Comparison to the Proposed Project

Air quality impacts resulting from the construction of SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives would not be significantly different from the Proposed Project. Localized short-term construction emissions would occur in the same manner as the Proposed Project (A-1 through A-3). Operational air quality impacts (A-4 and A-5) would remain unchanged from the Proposed Project.

D.2.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.2.1 describes the air quality characteristics of the region. Because the Transmission System Alternative would occur in the same air basin as the Proposed Project, the existing air quality conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Construction related impacts to air quality would be greater under this alternative when compared to the Proposed Project due to the additional components proposed as part of this alternative. In addition to the construction of a new 230 kV overhead transmission line, the Transmission System Alternative would involve (1) removal of the existing 138 kV overhead transmission line and associated 46 lattice towers; (2) construction of a 138 kV overhead transmission line from the Proctor Valley Substation to Miguel Substation; and (3) additional work at the Miguel, Proctor Valley and Los Coches Substations to accommodate transformers or provide necessary connections. Construction of these additional components associated with this alternative would increase the short-term adverse effects of dust emissions and equipment emissions (Impacts A-1 through A-3) described in *Section D.2.3* for the Proposed Project. As shown in *Table D.2-9*, total daily peak

construction emissions for the entire OMPPA Transmission Project are substantially below identified significance thresholds and therefore the additional exhaust and dust emissions associated with the removal of 46 existing lattice towers, construction of a new 138 kV overhead transmission line and modification to existing substations are not anticipated to be sufficient enough to cause exceedance of identified significance thresholds. Implementation of APM 56 through APM 60 would further reduce PM_{10} and construction equipment emissions (air quality impacts A-1 through A-3) associated with construction of the Transmission System Alternative to less than significant (Class III).

Operational related impacts to air quality would be considered similar to the Proposed Project. Upon completion of construction, this alternative would not generate any air emissions beyond those associated with maintenance and repair of the project. The small number of vehicle trips (two to four trips per day) required for maintenance and operation would not exceed the thresholds of significance identified above. Therefore, this alternative would not contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial levels of CO hot spots, air toxics or objectionable odors.

Air quality impacts resulting from operational impacts (A-4 and A-5) would remain unchanged from impacts described in *Section D.2.3* for the Proposed Project, which were determined to be less than significant (Class III).

Comparison to the Proposed Project

Localized short-term construction emissions would occur in the same manner as the Proposed Project (A-1 through A-3). Although air quality impacts resulting from the construction of the Transmission System Alternative would be greater than the Proposed Project, due to the additional construction activities required to remove existing lattice structures, construct a 138 kV overhead transmission line, and perform additional work at substations; construction emissions would not exceed identified significance thresholds and would be further reduced by APMs proposed for the project. Operational air quality impacts (A-4 and A-5) would remain unchanged from the Proposed Project.

D.2.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the No Project Alternative, the full dispatchability of the OMGP would not be realized and therefore, the RMR benefits provided by the Proposed Project would not occur. Under the No Project Alternative, some of the older, less efficient units that have existing RMR contracts with CAL-ISO would not be displaced by the full output of the OMGP. Air

quality impacts associated with these older and less efficient power plants are expected to be greater than those associated with the OMGP. Additionally, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.2.3* for new transmission, but could vary depending on length of transmission line and location pursued. The environmental impacts of new generation can be significant especially with respect to air quality. Air quality impacts associated with the proposed transmission line would be substantially less than those associated with new power generation sources.

D.2.5 Mitigation Monitoring, Compliance and Reporting Table

Table D.2-10 shows the mitigation monitoring, compliance, and reporting program for air quality. The CPUC with assistance from the SDAPCD is responsible for ensuring compliance with the monitoring program. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.2-10* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.2-10*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text. Neither the Proposed Project nor any alternatives would result in air quality impacts requiring mitigation measures beyond those APMs incorporated into the project.

SDG&E OMPPA Transmission Project D.2 AIR QUALITY

	TABLE D.2-10 MITIGATION MONITORING PROGRAM – AIR QUALITY									
No.	Impact	MM #	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
A-1	Violation of air quality standard or substantial contribution to an existing or project air quality violation		APMs 56 through 60 apply	See <i>Table D.2-7</i> for description. The following APMs are highlighted as they were factored into the impact analysis						
			APM-56	The following protocols shall be employed to minimize the release of PM ₁₀ : prohibiting construction grading on days when the wind is significant, where feasible; covering all trucks hauling soil and other loose material, or require at least two feet of freeboard; erecting snow-fence type windbreaks in areas identified, as needed, by SDG&E limiting vehicle speeds to 15 miles per hour on unpaved roads; treating unpaved roads with chemical stabilizers or by watering, as necessary; applying soil stabilizers to inactive construction areas on an as needed basis; and placing perimeter silt fencing, watering as necessary, or adding soil binders to exposed stockpiles of soil and other excavated materials.	SDG&E to implement measures as defined, and incorporate commitments into construction contracts.	CPUC to inspect periodically for dust control within and outside the work area in order to ensure that fugitive dust has been controlled outside the work area.	During construction in all work areas.			
			APM-57	To minimize mud and dust from being transported onto paved roadway surfaces, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.	SDG&E to implement measures as defined, and incorporate commitments into construction contracts.	CPUC to inspect periodically for dust control within and outside the work area in order to ensure that fugitive dust has been controlled outside the work area.	During construction in all work areas.			
			APM-59	If suitable park and ride facilities are available in the project vicinity, construction workers shall be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool	SDG&E to implement measures as defined, and	SDG&E to provide verification of carpool program to the CPUC at least	Prior to and during construction in all work areas.			

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

SDG&E OMPPA Transmission Project D.2 AIR QUALITY

TABLE D.2-10 MITIGATION MONITORING PROGRAM – AIR QUALITY								
No.	Impact	MM #	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
				program for the project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show- up time and the project's construction schedule.	incorporate commitments into construction contracts.	60 days prior to construction in order to minimize construction- related emissions.		
			APM-60	To the extent feasible, unnecessary construction vehicle and idling time shall be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel- powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project shall apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction foremen shall include briefings to crews on vehicle use as a part of preconstruction conferences. Those briefings shall include discussion of a "common sense" approach to vehicle use.	SDG&E to implement measures as defined, and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been made in contracts specifying low-emission equipment. CPUC to inspect periodically for idling equipment not required for use immediately or continuously in order to minimize construction emissions.	Prior to and during construction in all work areas.	

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

D.2.6 References

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D.3 BIOLOGICAL RESOURCES

Section D.3.1 provides a summary of the environmental setting of the existing biological resources present along the alignment of SDG&E's proposed OMPPA Transmission Project. Applicable regulations, plans, and standards are listed in Section D.3.2. Potential impacts and mitigation measures for the Proposed Project are presented in Section D.3.3; and alternatives are described and discussed in Section D.3.4. Mitigation monitoring, compliance, and reporting are discussed in Section D.3.5. In addition, Appendix 3 to this EIR is the biological resources technical report (Essex, 2004 IN SDG&E, 2004d; Essex 2005), which includes additional detail and description.

D.3.1 Environmental Setting for the Proposed Project

This section summarizes the existing biological resources within the project area. Biological resources include living organisms and the physical environment in which they occur. Biological resources are categorized in this report into plant communities/wildlife habitat, sensitive plant and animal species, and wildlife movement corridors. Plant communities are characterized by dominant species and physiognomy. Vegetation and plant species are often associated with specific soils, slopes, aspects, and/or elevations. Animal species are typically found in particular habitats which are defined by plant communities and physical features (*e.g.*, rock outcrops, sandy soils). Wildlife movement corridors are travel routes that allow animals to reach habitat areas for daily use, seasonal movement, and/or juvenile dispersal.

Technical information for this section was obtained from the Otay Mesa Power Purchase Agreement Transmission Project Proponent's Environmental Assessment (SDG&E, 2004a), Otay Mesa Power Purchase Agreement Transmission Project Biological Resources Technical *Report* (Essex, July 2004), and a quino checkerspot butterfly (*Euphydryas editha quino*) protocol survey report (RECON, 2004). Reconnaissance-level surveys and general habitat assessments were conducted along the route in December 2003 and January 2004 (SDG&E, 2004a) and revised in July 2004 (Essex, 2004). Additional information regarding biological resources was provided by field investigations conducted by Dudek & Associates (Dudek, September and October, 2004) and from general reference material including review of database information such as California Natural Diversity Data Base ([CNDDB] 2004), SANDAG (1997), City of San Diego Multiple Species Conservation Program ([MSCP] 1996), San Diego County MSCP (1997a), California Native Plant Society (CNPS) (2001), Marine Corps Air Station (MCAS) Miramar's Integrated Natural Resources Management Plan ([INRMP] 2000), and GIS information provided by the San Diego National Wildlife Refuge. Additional focused surveys for sensitive species were conducted by SDG&E in 2004 (Essex 2005) included in Appendix 3 to this EIR. These surveys were concentrated on the narrow endemic species that may occur within

the project. In some cases, the survey may have been conducted too late in the year. Additional surveys are scheduled for spring 2005.

Soil information used to evaluate biological resources was obtained from USDA Soil Conservation Service mapping (Bowman 1973). Vegetation community mapping was obtained from the technical report prepared for the project (Essex, July 2004) and reviewed using the vegetation mapping prepared by the County of San Diego (SANDAG 1995), 2004 aerial imaging from Aerial Access (March 2004), and limited field reconnaissance by Dudek biologists. Plant community nomenclature follows that of Holland (1986).

Based on the field surveys, corrections to the GIS vegetation community layers provided by Essex (2004) were made and new vegetation community types were added to adequately describe and depict the communities observed in the study corridor. The majority of the information about, and quantifying of, the vegetation communities for the project study areas herein is presented at the vegetation series level (Holland, 1986). However, for select locations or select vegetation series, more detailed information on specific vegetation associations is included where that information was available. This information was combined to create a digital map of the vegetation within the ROW of the project. The acreages of all vegetation communities in the study corridor and for the substations were calculated using GIS.

To determine if special-status species inhabit or potentially inhabit the project area, the following actions were completed:

- Database searches (CNPS, California Natural Diversity Database records [CNDDB], City of San Diego Habitat Conservation Plan/Multiple Species Conservation Program [HCP/MSCP], San Diego County MSCP, SANDAG), literature reviews, examination of aerial photographs (scale approximately 1:3,500), and informational investigations obtained from the USFWS and CDFG were compiled. This provided information of historical observations. Then, based on habitat, soils, presence of rock outcrops, regional location, and local knowledge, an analysis was conducted to determine the potential for presence of each of the sensitive species.
- Reconnaissance surveys were conducted in December 2003, January, June and July 2004 by Essex (SDG&E, 2004b; Essex, 2004) and were supplemented with limited investigations by Dudek biologists in September and October, 2004 to determine habitat suitability for plant and wildlife species for each of the special-status species determined to have the potential to occur within the project area. To conduct these reconnaissance evaluation surveys, an area approximately 500 feet wide (approximately 250 feet on either side of the existing ROW center-line) as well as access roads to be used during construction activities and long-term operations were surveyed on foot and with the use

of vehicles (Essex, 2004). Focused surveys for sensitive species other than those listed in the following bulleted items were not conducted; however, a number of sensitive species were observed by the brief visits conducted by Essex and Dudek and that information is displayed in the biological resource maps.

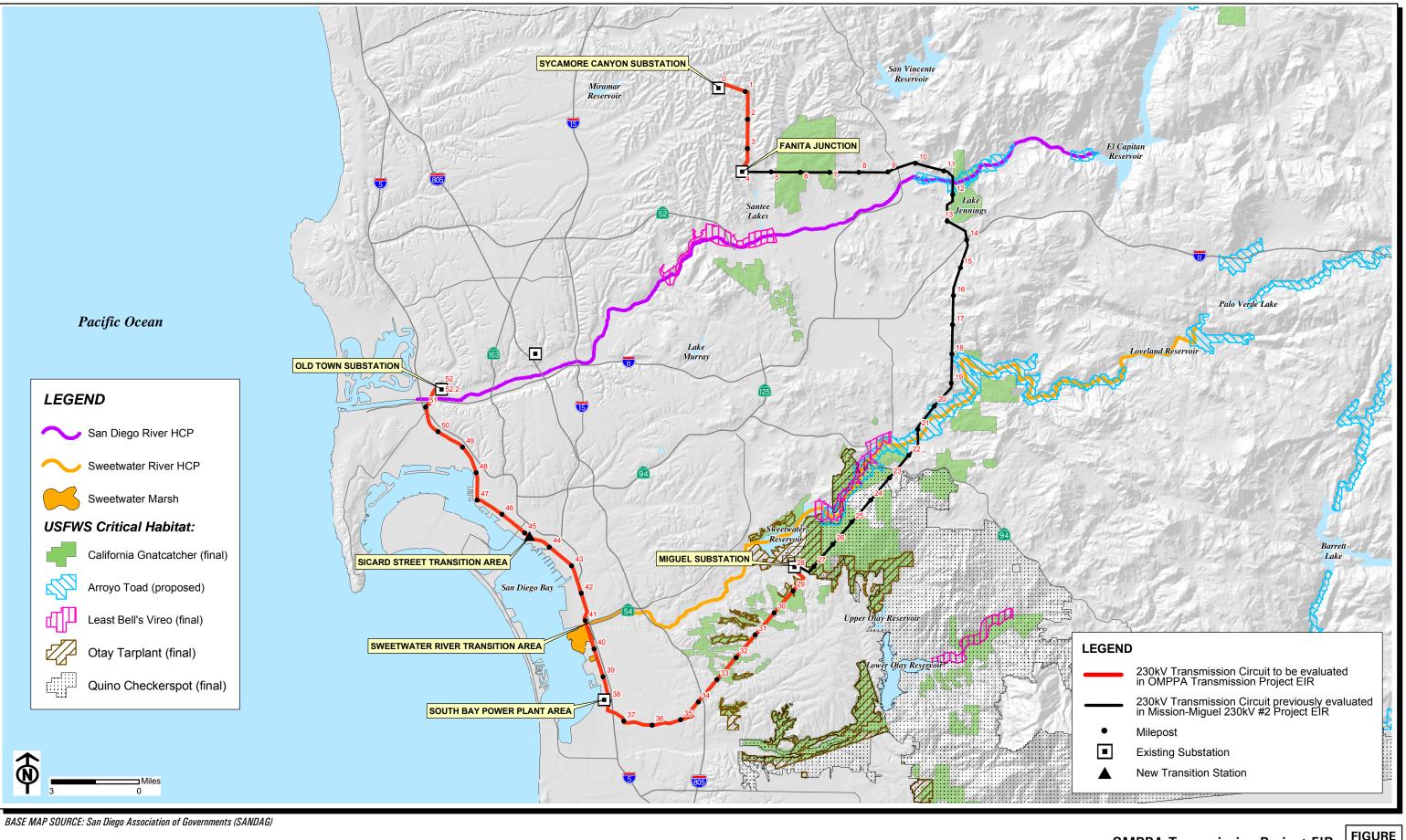
- USFWS protocol surveys were conducted for the endangered quino checkerspot (RECON, 2004).
- Focused surveys were conducted for sensitive species including cactus wren, burrowing owl, wandering skipper, salt marsh bird's beak, snake cholla, San Diego thornmint, San Diego ambrosia, aphanisma, coastal dunes milk-vetch, Palmer's ericameria, and willowy monardella (Essex 2005).

D.3.1.1 Regional Overview

The Proposed Project is located entirely within San Diego County and passes through the Cities of San Diego, Chula Vista and National City, MCAS Miramar, and unincorporated areas in the eastern portion of the project. San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federal and State-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species. The project area is within the south coast geographic floristic subdivision, dominated by Diegan coastal sage scrub and chaparral vegetation communities. The project ROW crosses large expanses of upland vegetation communities interspersed with relatively small amounts of wetland communities. It also crosses substantial amounts of disturbed habitat, and residential and commercial developments. It crosses two major rivers, the San Diego River and the Sweetwater River as well as numerous creeks and intermittent and ephemeral tributaries or drainages (see *Section D.6, Hydrology and Water Quality* of this EIR). The vegetation communities within the ROW are discussed in detail in *Section D.3.1.3*.

D.3.1.2 Special Habitat Management Areas

The project area is located near or adjacent to, or crosses through, several city parks, areas designated as open space, areas covered by Habitat Conservation Plans (HCPs), and wetlands that potentially represent islands of biological diversity (*Figure D.3-1*). The ROW passes adjacent to a section of the San Diego National Wildlife Refuge Sweetwater Marsh Unit. It also passes within the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego, the City of San Diego, City of Chula Vista, MCAS Miramar, and SDG&E to conserve threatened and endangered species and their habitats in these regions. The following are brief discussions of a few of the areas with the potential to be affected by the project.



OMPPA Transmission Project EIR **Special Management Areas**



Sweetwater River Habitat Conservation Plan Area

The Sweetwater Habitat Conservation Plan (San Diego Association of Governments [SANDAG], 1990a) is a part of the Comprehensive Species Management Plan for the federallyendangered least Bell's vireo prepared by SANDAG. This habitat conservation plan identifies 821 acres of riparian habitat to be conserved and managed for the benefit of the federal and State-listed endangered least Bell's vireo (*Vireo bellii pusillus*) and an additional 33 acres of riparian habitat to be protected. Located within the Sweetwater River watershed, the general study area for the HCP includes that part of the watershed between San Diego Bay and Loveland Reservoir (SANDAG 1990a). The goal of the HCP is to provide habitat of adequate area and quality to support a population of the least Bell's vireo that is large enough to preclude the threat of extirpation from any foreseeable event. Focused planning areas (FPAs) have been established to evaluate the distribution of habitat and the vireo. The project crosses the HCP area at Reach I of the HCP, which is located near the mouth of the river, where there is no riparian habitat or potentially reclaimable habitat that could be occupied by vireo. The function of this reach is predominantly as flood control channel. There are no FPA areas within the project area.

San Diego River Habitat Conservation Plan Area

The San Diego River Habitat Conservation Plan (SANDAG 1990b) is a part of the Comprehensive Species Management Plan for the federally-endangered least Bell's vireo prepared by SANDAG. This habitat conservation plan identifies 474 acres of riparian habitat to be conserved and managed for the benefit of least Bell's vireo and an additional 216 acres of riparian habitat to be protected. Located within the San Diego River watershed, the general study area for the HCP includes that part of the watershed between the mouth of the river and El Capitan Reservoir (SANDAG, 1990b). The goal of this HCP is the same as that for the Sweetwater River HCP. Similar to the Sweetwater River HCP, FPAs have been established to evaluate the distribution of habitat and the vireo and typically are identified where riparian habitat is present. The project crosses the HCP area at Reach I of the HCP, which extends from the mouth to approximately Morena Boulevard, where there is riparian habitat identified that could be occupied by vireo. This habitat is classified as R-1/R-2 which indicates there is riparian habitat that is potentially suitable for vireos. One singing male was identified to be present within the Mission Valley area of Reach I in 1988.

San Diego National Wildlife Refuge - Sweetwater Marsh Unit

The San Diego National Wildlife Refuge (Refuge) is a contribution by the USFWS to conserve the rich and varied natural heritage of the San Diego region. The Sweetwater Marsh Unit of the Refuge is located in Chula Vista and supports a variety of habitats dominated by coastal wetland vegetation communities. This coastal refuge is home to many sensitive species, including the federally listed endangered light-footed clapper rail (*Rallus longirostris levipes*), State-listed endangered Belding's savannah sparrow (*Passerculus sandwichensis* beldingi), federally listed threatened western snowy plover (*Charadrius alexandrinus nivosus*), federally listed endangered plant salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*), and CNPS List 2 plant Palmer's frankenia (*Frankenia palmeri*). The approved refuge boundary for this refuge is 44,000 acres, with a total of 316 acres in the Sweetwater Marsh Unit (USFWS, 2003). The project crosses adjacent to the eastern edge of the wildlife refuge from approximately mile-posts 39.8 to 41. Although the SDG&E ROW crosses the Refuge, it is not considered a part of the Refuge and is not under Refuge jurisdiction.

D.3.1.3 Vegetation Communities and Sensitive Habitats within the Project Area

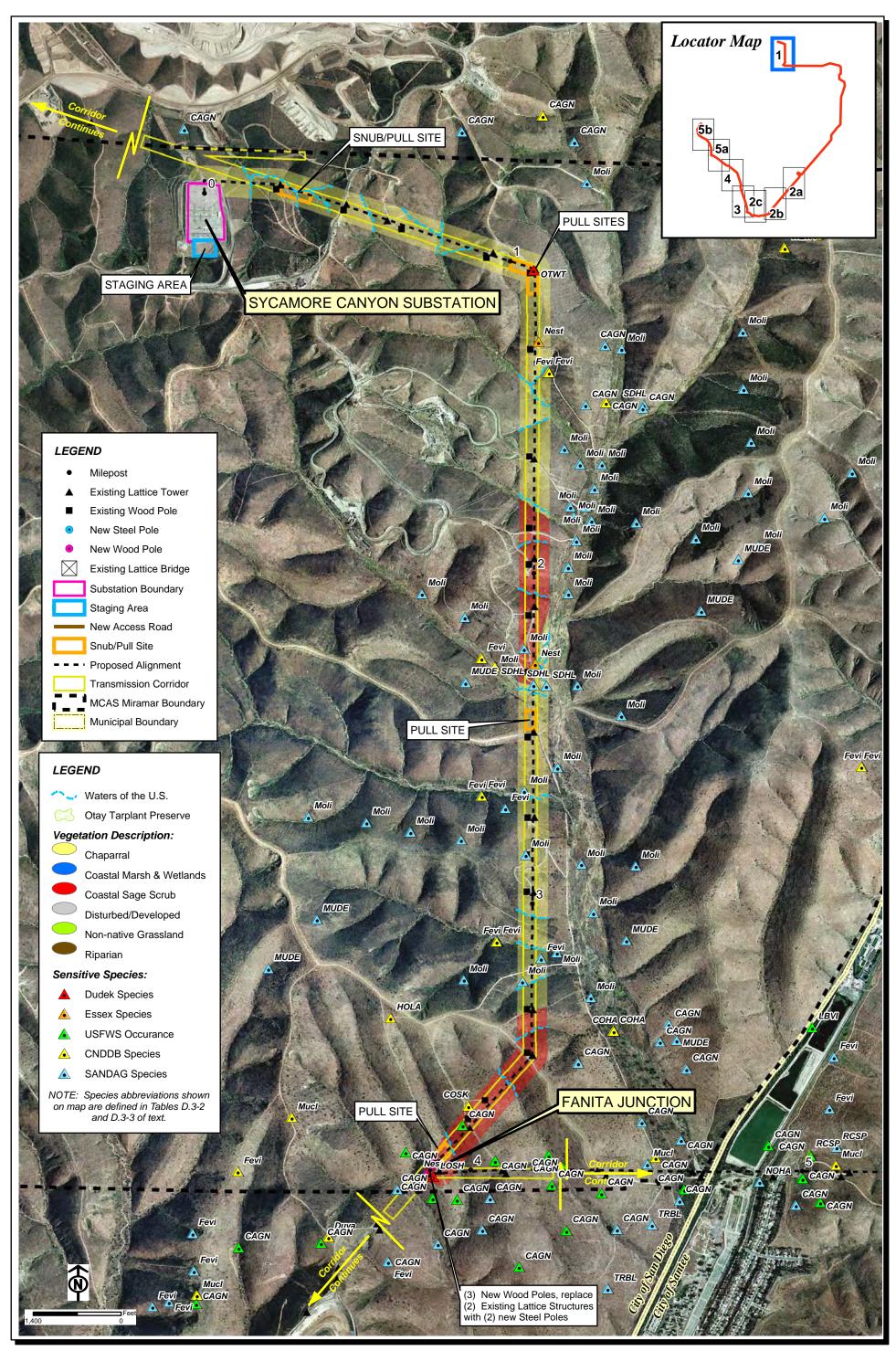
The project area consists of an area approximately 500 feet wide (approximately 250 feet on either side of the existing Proposed Project alignment centerline). Also included are various existing access road alignments located outside the SDG&E utility alignment. All vegetation communities and resources were mapped and the extent of direct, indirect, and cumulative impacts on biological resources were analyzed. The effects of construction activities including noise on sensitive biological resources was addressed and where occurrence of sensitive species was not known, the sensitive resources were assumed to be present. Measures to restrict construction activity to the non-breeding season were included in order to avoid impacts to sensitive species.

Based on the vegetation mapping provided by Essex (2004) as revised by Dudek, the vegetation communities found within the project area include the upland communities: coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chaparral, southern mixed chaparral, baccharis scrub, non-native grassland, and eucalyptus woodland; and the wetland or riparian communities: southern willow scrub, disturbed southern willow scrub, mule fat scrub, the Sweetwater River channel, salt marsh, disturbed salt marsh, mud flats, and drainages as represented by mapping of drainage (Essex 2004) or waters of the U.S. (conducted by Dudek). Disturbed land and developed land are also present within the project area. *Table D.3-1* indicates the acreages of the existing vegetation communities/habitats within the project area.

TABLE D.3-1 EXISTING VEGETATION COMMUNITIES WITHIN THE PROJECT AREA						
Vegetation Community	Acres					
Coastal Sage Scrub and Subtypes						
Coastal Sage Scrub	120.0					
Disturbed coastal sage scrub	35.8					
Coastal sage scrub/chaparral	25.4					
Baccharis scrub	14.9					
Chaparral Communities						
Southern Mixed Chaparral	160.5					
Grasslands						
Non-native Grassland	48.5					
Riparian Vegetation						
Southern Willow Scrub	11.7					
Disturbed southern willow scrub	0.2					
Mule fat scrub	0.4					
Drainages	1.8					
Wetlands and Salt Marsh						
Southern Coastal Salt marsh	29.2					
Disturbed Southern Coastal salt marsh	1.6					
Mud flats	3.8					
Open Water (Sweetwater River channel)	3.5					
Disturbed/Developed						
Disturbed	169.6					
Developed	1,092.0					
Eucalyptus woodland	1.0					
Total	1,719.9					

Source: Essex, 2004

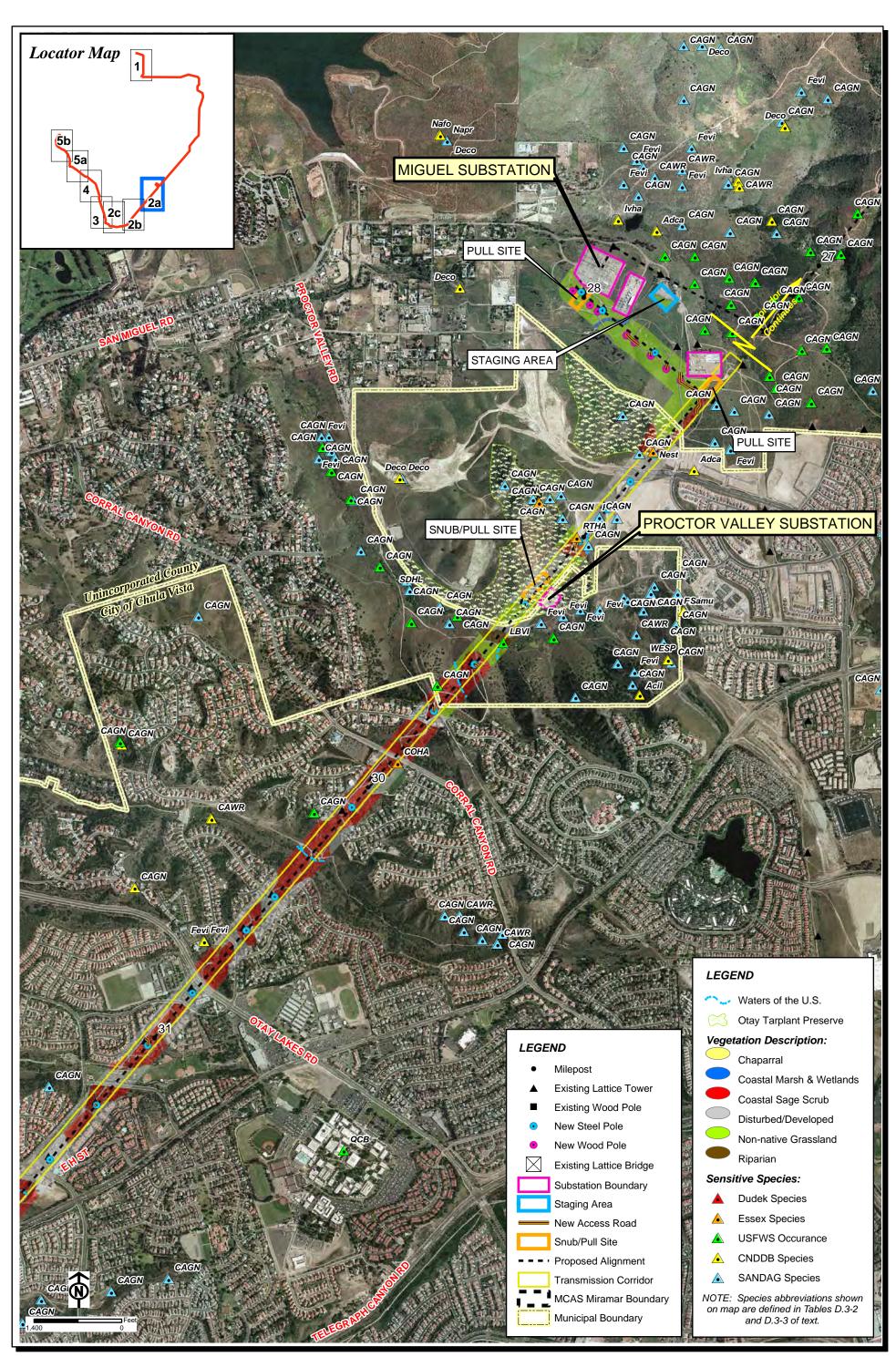
For mapping display purposes, a number of vegetation communities were combined based on similarity of plant composition and the functions of the community for wildlife use (see *Figures D.3-2, Biological Resources Maps 1, 2a, 2b, 2c, 3, 4, 5a and 5b*). Coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chaparral, and baccharis scrub were combined and represented as coastal sage scrub and subtypes. Southern willow scrub, disturbed southern willow scrub, mule fat scrub, and drainages were combined and represented as riparian vegetation. Drainages represented as waters of the U.S. which are typically unvegetated channels or channels within upland habitat are presented as a linear feature. The channel of the Sweetwater River (open water), salt marsh, disturbed salt marsh, and mud flats were combined



Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR Biological Resources Map 1 (Sycamore Canyon - Fanita Junction)



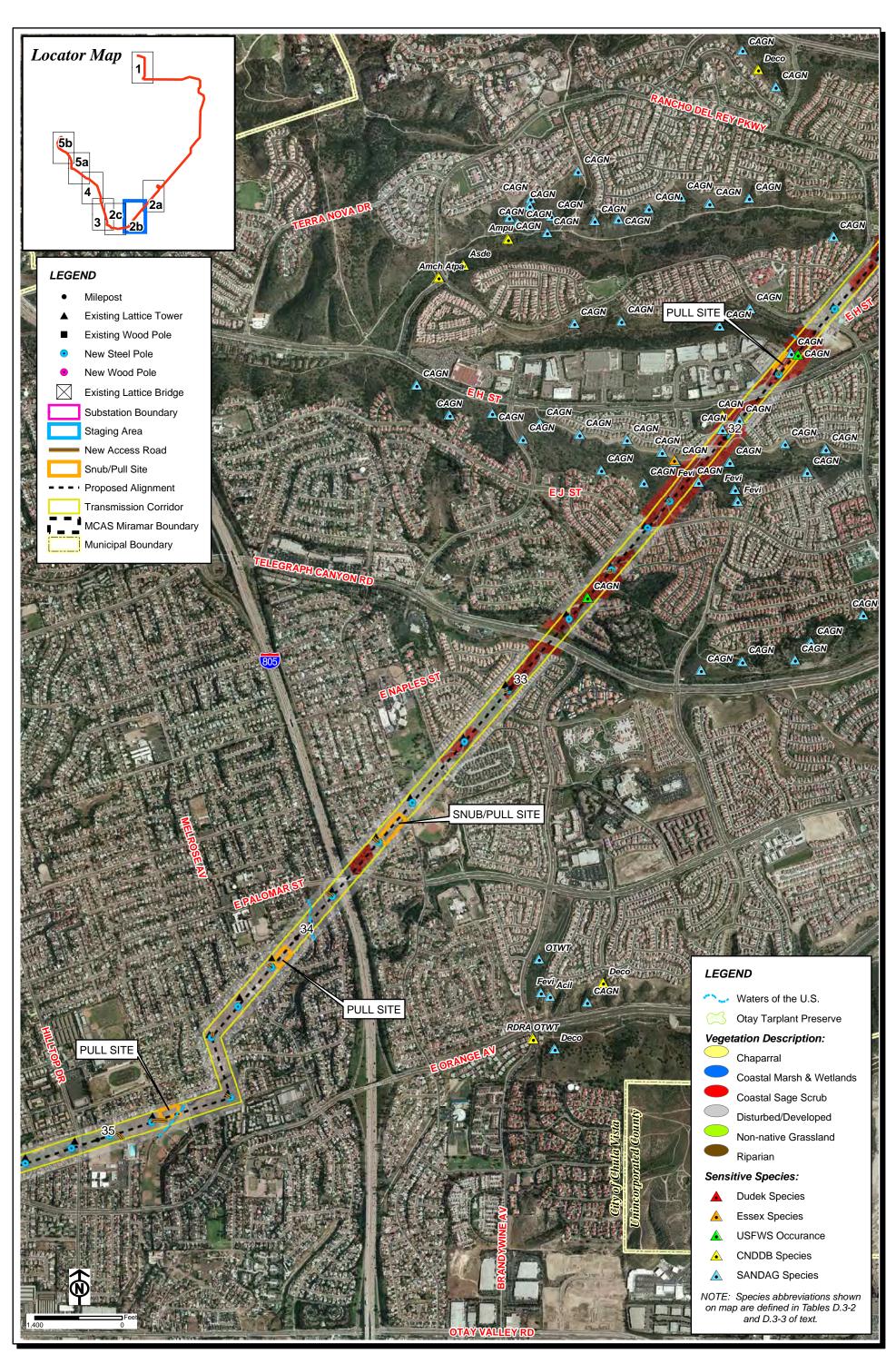


Base Map Source: Aerials Express, Flown May 2004

OMPPA Transmission Project EIR Biological Resources Map 2a (Miguel to South Bay)

FIGURE

D.3-2



OMPPA Transmission Project EIR Biological Resources Map 2b (Miguel to South Bay)

FIGURE

D.3-2



OMPPA Transmission Project EIR Biological Resources Map 2c (Miguel to South Bay)

FIGURE

D.3-2

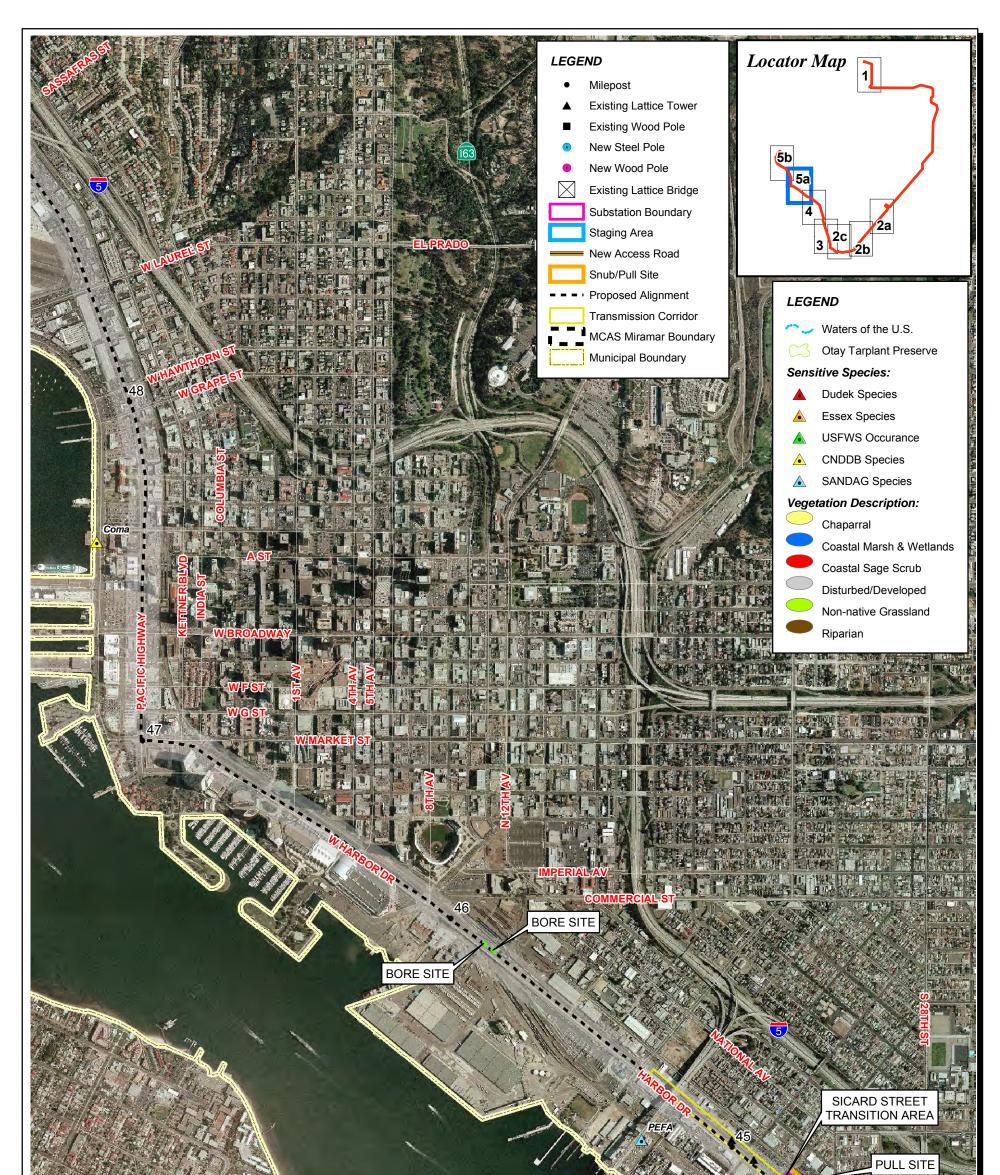


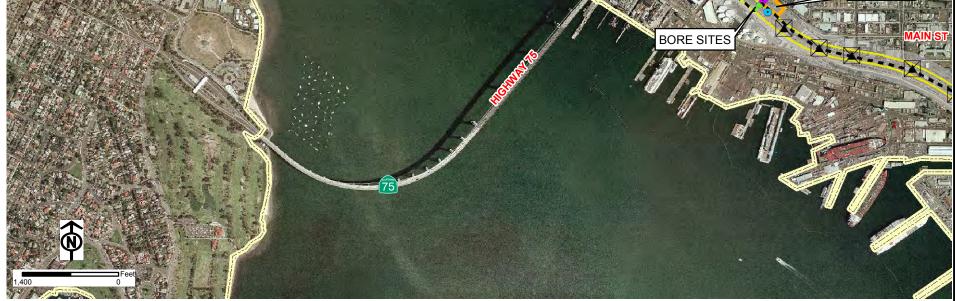
OMPPA Transmission Project EIR Biological Resources Map 3 (South Bay to Sweetwater River)





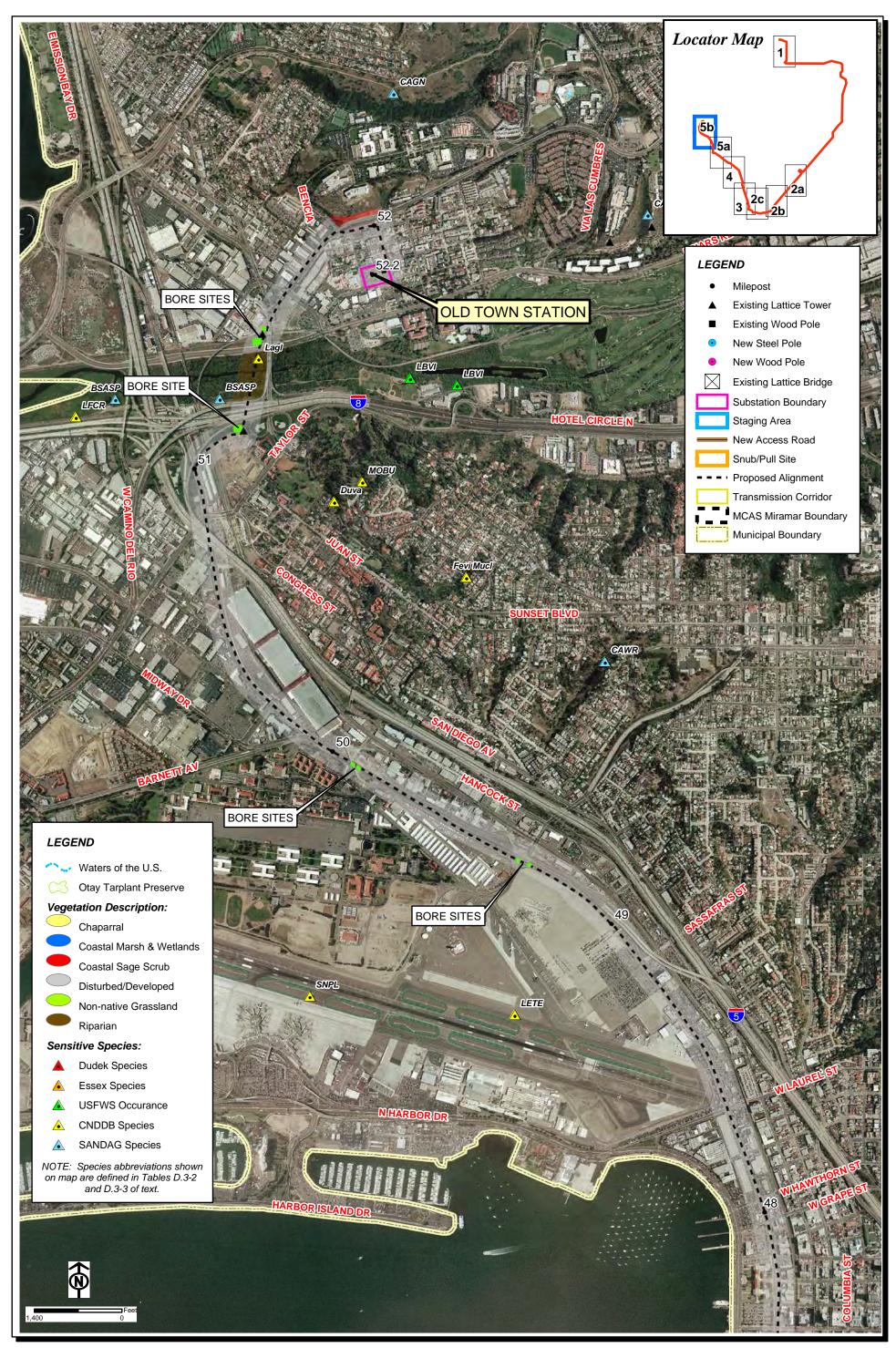
OMPPA Transmission Project EIR Biological Resources Map 4 (Sweetwater River to Sicard)





OMPPA Transmission Project EIR Biological Resources Map 5a (Sicard to Old Town)





OMPPA Transmission Project EIR Biological Resources Map 5b (Sicard to Old Town)



as salt marsh and wetland communities. The Sweetwater River was included in this community because of its close proximity to the mudflat and salt marsh area and its similar use by wildlife species at this particular location. Disturbed, developed and eucalyptus woodland were combined as disturbed/developed. The eucalyptus woodland was included in this category because in this region, the eucalyptus was not associated with a drainage or riparian habitat but was adjacent to and incorporated in with developed land use. Vegetation in an area is a prime factor in determining the suitability of a site for use by certain animal species and the occurrence of certain plant species. Other relevant factors include soil type, cover, aspect, slope, and water sources. In the following sections, those species typically associated with broad categories of vegetation are discussed.

Sage Scrub and Chaparral

Coastal Sage Scrub: Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils. Dominated by drought-deciduous shrub species with relatively shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Despite the fact that it has been greatly reduced from its historical



Coastal sage scrub habitat near mile-post 32

distribution (Oberbauer, 1996), the Diegan association is the dominant coastal sage scrub in coastal Southern California from Los Angeles to Baja California, Mexico (Holland, 1986). This habitat also supports a number of rare, threatened, or endangered species. Coastal sage scrub is the predominant sage scrub vegetation community within the project area and in the immediate project vicinity. This vegetation community is characterized by California sagebrush (*Artemisia californica*), flat-topped buckwheat (*Eriogonum fasiculatum*), white sage (*Salvia apiana*), and laurel sumac (*Malosma laurina*). The coastal sage scrub community is found on most of the lower slopes and mid-elevation portions of hillsides in the immediate project vicinity within the Sycamore Canyon Substation to Fanita Junction (Sycamore to Fanita) segment and can also be found in isolated canyons and slopes surrounded by residential and commercial development and is crossed by the existing overhead Miguel Substation to South Bay Power Plant Area (Miguel to South Bay), South Bay Power Plant Area to Sweetwater River (South Bay to Sweetwater River), and Sweetwater River to Sicard Street Transition Area (Sweetwater River to Sicard Street)

segments. It is also found along the underground route for the Sicard Street Transition Area to Old Town Substation (Sicard Street to Old Town) segment. Wildlife species most often associated with coastal sage scrub include several upland bird species, such as California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), Bewick's wren (*Thryomanes bewickii*), and western scrub-jay (*Aphelocoma californica*). Scrub habitats also provide cover and forage for mammal species, including California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*). The federally-listed threatened coastal California gnatcatcher (*Polioptila californica californica*) is strongly associated with sage scrub habitats.

Disturbed Coastal Sage Scrub: Disturbed coastal sage scrub is similar in composition and structure to coastal sage scrub. However, this vegetation community tends to be lower in native species cover and higher in non-native plant species. Non-native species especially prevalent in disturbed coastal sage scrub include non-native grasses. Similar to coastal sage scrub, this vegetation community is found on many of the lower and middle elevation slopes in the Sycamore to Fanita and Miguel to South Bay segments.

Coastal Sage Scrub/Chaparral: Coastal sage scrub/chaparral is a transitional community codominated by species representative of both sage scrub and chaparral. Typical coastal sage scrub species such as California sagebrush, black sage and laurel sumac intermixed with typical chaparral components such as chamise (*Adenostoma fasciculatum*), lilac (*Ceanothus spp.*), and manzanita (*Arctostaphylos spp.* or *Xylococcus bicolor*). This habitat community is found within the Sycamore to Fanita segment.

Baccharis Scrub: Baccharis scrub is an open to dense scrub community dominated by broom baccharis (*Baccharis sarothroides*) and coyote bush (*Baccharis pilularis* ssp. *consanguinea*). This is most likely a seral community which, in the absence of continued disturbance such as periodic flooding, will be replaced by later seral scrub or woodland communities. Within the project area, baccharis scrub is dominated by broom baccharis, flat-topped buckwheat, pampas grass (*Cortaderia selloana*), and tree tobacco (*Nicotiana glauca*). Baccharis scrub occurs in isolated patches west of the southern coastal salt marsh and north of the Sweetwater River along the South Bay to Sweetwater River and Sweetwater River to Sicard Street segments.

Southern Mixed Chaparral: Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs such as chamise, ceanothus, and scrub oak that can grow to 6 to 10 feet tall and form dense often nearly impenetrable stands with poorly developed understories. Within the project area, southern mixed chaparral is dominated by chamise (*Adenostoma fasciculatum*), ceanothus (*Ceanothus* sp.), laurel sumac, and manzanita (*Arctostaphylos* sp.). This vegetation community is generally confined



Burned Southern mixed chaparral near mile-post 2

to higher elevations and steeper slopes that are typically north and/or east facing aspects along the Sycamore to Fanita segment. Patches of chaparral dominated by chamise are found within the Sycamore to Fanita segment. In some areas, a mix of valley needlegrass grassland plant species is evident within the chaparral vegetation. The chaparral shrub species occur as a mosaic with the native grassland species. Wildlife species most often associated with coastal sage scrub include the species listed above for coastal sage scrub as well as species such as wrentit (*Chamaea fasciata*), Bell's sage sparrow (*Amphispiza belli belli*), and blue-gray gnatcatcher (*Polioptila caerulea*).

Grasslands

Non-Native Grassland: Non-native grassland areas in the past may have supported native grassland but have been invaded by exotic annuals. The flora of nonnative grasslands include a dense to sparse cover of introduced grasses and often numerous species of showy-flowered, nonnative and native, annual forbs. This habitat is often associated with deep, fine-textured soils with some clay content. Introduction of exotic grasses in California due to grazing and agricultural practices coupled with severe droughts has contributed to the conversion of native grasslands to non-



Non-native grassland near mile-post 29

native grassland (Jackson, 1985). Whereas native grasslands support mostly perennials such as needlegrass (*Nasella* sp.), non-native grasslands (including those onsite) support mostly annuals.

Typically, non-native grassland includes at least 50 percent cover of the entire herbaceous layer attributable to annual non-native grass species, although other plant species maybe intermixed. These annuals germinate with the onset of the rainy season and set seed in the lat winter or spring. With a few exceptions, the plants die off through the summer to fall dry season, persisting as seeds in subsequent growing seasons. Regardless of species composition, all grasslands throughout the County serve as valuable raptor foraging habitat and have additional value due to the native forbs they often support. Most of the non-native grasslands in the project area and in the immediate project vicinity area appear to be abandoned agricultural and pasture land that are now dominated by ripgut grass (Bromus diandrus), slender oat (Avena barbata), wild oat (Avena fatua), and black mustard (Brassica nigra). Non-native grasslands within the project areas are found within the Sycamore to Fanita segment and along the slopes southwest of the Miguel to South Bay segment. Within the Sycamore to Fanita segment, grasslands may be present due to repeated fires within the area that have type-converted the shrub vegetation community. In the Miguel to South Bay segment, grasslands occur in large blocks on the clay soils that occur in the vicinity of Proctor Valley Road. Non-native grasslands are common and widespread throughout California, and the characteristic wildlife species that occupy them are of equally wide distribution. Typical grassland wildlife species include the California vole (Microtus californicus), western meadowlark (Sturnella neglecta), mourning dove (Zenaida macroura), red-tailed hawk, and house finch (Carpodacus mexicanus), northern harrier (Circus cyaneus), grasshopper sparrow (Ammodramus savannarum), and lark sparrow (Chondestes grammacus).

Riparian Communities

Riparian vegetation communities, in general, are considered sensitive biological resources and are usually under the jurisdiction of the U.S. Army Corps of Engineers and the California Department of Fish and Game as wetlands or Waters of the U.S.

Southern Willow Scrub: Southern willow scrub consists of dense, broadleaved, winterdeciduous stands of trees dominated by shrubby willows (Salix sp.) in association with mule fat (Baccharis salicifolia). This habitat occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland, 1986). Within the project area, this vegetation



Southern willow scrub near mile-post 29

community consists of black willow (*Salix goodingii*) and arroyo willow (*Salix lasiolepis*), with scattered Fremont cottonwood (*Populus fremonti*) and sycamore (*Platanus racemosa*). Southern willow scrub occurs along the San Diego River, in a well-established drainage course south of Proctor Valley Road, as well as within many drainages throughout the project area. Wildlife species often associated with southern willow scrub include the Pacific-slope flycatcher (*Empidonax difficilis*), yellow warbler (*Dendroica petechia*), black-headed grosbeak (*Pheucticus melanocephalus*), pacific tree frog (*Hyla regilla*),and western toad (*Bufo boreas*). The federally and state-listed endangered least Bell's vireo (*Vireo bellii pusillus*)and the federally endangered arroyo toad (*Bufo californicus*) are also sometimes associated with these habitats.

Disturbed Southern Willow Scrub: Disturbed southern willow scrub is similar in species composition and structure to Southern willow scrub, but contains less cover by native riparian shrub and tree species and more non-native plant species. Disturbed southern willow scrub occurs within small drainages along the Miguel to South Bay segment.

Mule Fat Scrub: Mule fat scrub is a depauperate, tall, herbaceous, riparian scrub community dominated by mule fat and interspersed with shrubby willows. This vegetation community occurs along intermittent stream channels as an early seral community, and occurs along drainages with a fairly coarse substrate and a moderate depth to the water table. Mule fat scrub is maintained by frequent flooding, the absence of which would lead to a riparian woodland or forest (Holland, 1986). Within the project area, mule fat scrub can be found near Miguel Substation. Wildlife species using this vegetation community are similar to those using southern willow scrub and also include species typical of more upland vegetation communities.

Drainages: Drainages include unvegetated waters that are either intermittent (contain water every year that remains for a long enough period to allow development of wetland vegetation) or ephemeral (water moves through the feature but generally does not remain for a long enough period to establish wetland vegetation). These features are generally defined by topography as well as the defined high water mark. SDG&E provided the locations of a number of wetlands as obtained from the National Wetlands Inventory (NWI) (SDG&E, 2004a). The drainage information was obtained from California Spatial Information Library (CASIL). The 100-year flood plains were obtained from FEMA. The data meets national map accuracy standards for 1:100,00 scale mapping. SDG&E did not prepare a wetland delineation and thus may have missed drainages that are considered waters of the U.S. that are under jurisdiction of the resource agencies. Dudek biologists made visits to the site and mapped drainages and waters of the U.S. based on topography, evidence of a channel, and evidence of a high water mark. No soil test pits were made to confirm the mapping and the mapping should be considered to be approximate in that widths of drainages were not recorded. There are many drainages or waters of the U.S. within the Sycamore to Fanita segment. Most of these contain upland vegetation. Near the

Miguel Substation and infrequently within the bottoms of the native vegetation canyons are other waters of the U.S.

Wetland and Open Water

Wetland and open water communities, in general, are considered sensitive biological resources and are under the jurisdiction of the U.S. Army Corps of Engineers and the California Department of Fish and Game as wetlands or Waters of the U.S.

Southern Coastal Salt Marsh: Southern coastal salt marsh consists of salt-tolerant herbaceous plant species and occurs in bays, estuaries, and lagoons in California. Southern coastal salt marshes are highly productive ecosystems that are driven by tidal cycles, which bring a daily influx of nutrients. Plant species typical of this habitat include salt grass (Distichlis spicata), salt heliotrope (*Heliotropium*) curassivicum), salt marsh fleabane (Pluchea odorata), saltwort (Batis



Coastal Salt Marsh near mile-post 40.5

maritima), California sea-blite (*Suaeda californica*), shoregrass (*Monanthochloe littoralis*), pickleweed (*Salicornia virginica*), alkali heath (*Frankenia salina*), cordgrass (*Spartina foliosa*), and Parish's glasswort (*Salicornia subterminalis*). Coastal salt marsh occurs along the South Bay to Sweetwater River and Sweetwater River to Sicard Street segments. Wildlife species occurring within the southern coastal salt marsh vegetation community include common yellowthroat (*Geothlypis trichas*) and song sparrow, as well as a number of sensitive species including lightfooted clapper rail (*Rallus longirostris levipes*), California least tern (*Sterna antillarum browni*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and western snowy plover (*Charadrius alexandrinus nivosus*).

Disturbed Southern Coastal Salt Marsh: Disturbed southern coastal salt marsh is similar in species composition to southern coastal salt marsh but has received disturbance from some source and contains less cover by the native species and more exposed soil.

SDG&E OMPPA Transmission Project D.3 BIOLOGICAL RESOURCES

Mud Flat: Mud flats are open areas interspersed within the southern coastal salt marsh. Typically there are few to no plant species found within the mud flats. Mud flats are created from tidal movements within the vicinity. Within the project area, mud flats occur sporadically throughout the southern coastal salt marsh vegetation community. The wildlife species listed above for salt marsh may also forage within mudflat areas. Mud flats occur along the South Bay to Sweetwater River segment.



Open Water: Open water areas are generally devoid of vegetation although there may be sparse wetland plant species along the banks. Open water within the project area is represented by the Sweetwater River channel as it approaches the Sweetwater marsh. Open water also is present in the Chollas Creek drainage channel and the 7th Street drainage both of which are crossed by the project. Many of the wildlife species that may forage at the Sweetwater Marsh may also forage at the Sweetwater River channel. These include species such as shorebirds and terns, egrets and herons and gull species. Within the smaller open water channels, wildlife species may forage and may include a number of egret and heron species.

Disturbed/Developed

Disturbed Land: Disturbed habitat includes land cleared of vegetation (dirt roads, for example) or contains a preponderance of nonnative plant species or areas that are mowed or landscaped on a regular basis thus precluding the development of native vegetation communities. Disturbed land encompasses all areas within the project area or in the immediate project vicinity that have been previously disturbed and have not returned to native habitat. This category includes areas dominated



Disturbed Habitat near mile-post 40

by herbaceous annuals and grasses including black mustard (*Brassica nigra*), radish (*Raphinus sativa*), wild oat, ripgut grass, foxtail chess (*Bromus madritensis* spp. *rubens*), Australian saltbush (*Atriplex semibaccata*), tocalote (*Centaurea melitensis*), fennel (*Foeniculum vulgare*), telegraphweed (*Heterotheca grandiflora*), crown daisy (*Crysanthanum* sp.), date palm (*Phoenix*

sp), and castor bean (*Ricinus communis*). Many of these areas are mowed regularly which prevents native plant species from taking hold. Some of these areas are used as parks for recreational use or by local residents.

Eucalyptus Woodland: Eucalyptus woodlands are dominated by several species of eucalyptus (*Eucalyptus* spp.). Generally these trees were planted as a windbreak, and for aesthetic and horticultural purposes around houses and other developed areas. Many eucalyptus species, however, have become naturalized and have invaded the natural riparian areas. The understory within well established groves is usually very sparse due to the closed canopy and allelopathic nature of the leaf litter. As a wildlife habitat, these woodlands provide excellent nesting sites for a variety of raptors. During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. The sparse understory offers only limited wildlife habitat. Eucalyptus woodlands occur in very few locations in association with developed areas and typically are adjacent to uplands within the project. Some patches of eucalyptus is some areas could be associated with wetlands, however this is not the case for this project so eucalyptus woodland has been combined with disturbed and developed habitat.

Developed Land: Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed land occurs throughout the project area.

D.3.1.4 Sensitive Vegetation Communities

Several of the vegetation communities within the Project Area as described in *Section D.3.1.3* above are considered sensitive or have special status due to their natural rarity and their decline in the area due to development and/or the number of sensitive plant or animal species dependent upon them. Sensitive habitats also include those regulated by the federal government under the Clean Water Act (i.e., jurisdictional wetlands and "waters of the U.S.") or the Endangered Species Act (i.e., site-specific designated critical habitat areas for federally listed wildlife species); and those regulated by CDFG under Section 1600 of the California Fish and Game Code. These habitats include southern willow scrub, disturbed southern willow scrub, mule fat scrub, salt marsh, disturbed salt marsh, mud flat, river channel, and drainages. The upland vegetation communities, including coastal sage scrub, disturbed coastal sage scrub, baccharis scrub, coastal sage scrub/chaparral, southern mixed chaparral, non-native grassland, as well as the wetland vegetation communities listed above are rare natural plant communities found within the project area that local jurisdictions such as the County of San Diego, and others consider to be sensitive.

D.3.1.5 Special Status Plant and Animal Species within the Project Area

Special-status species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Plants may also be listed by the California Native Plant Society (CNPS) as rare or endangered in California or covered under the SDG&E Natural Community Conservation Plan (NCCP). The term "special-status species" used in this section is defined as including species that are:

- Listed, proposed for listing, or candidates for listing, as threatened or endangered under the Federal Endangered Species Act (USFWS, 2004) (50 CFR 17.11 for wildlife; 50 CFR 17.12 for plants; 67 FR 40658 for candidates and various notices in the Federal Register for proposed species)
- Listed, or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (Title 14, California Code of Regulations, Section 670.5; CDFG, August 2004 and July 2004)
- Identified by the California Department of Fish and Game (CDFG) as species of concern (fish and wildlife species that do not have State or federal threatened or endangered status but may still be threatened with extinction; CDFG, August 2004 and July 2004)
- Protected by the Migratory Bird Treat Act (MBTA; USC 703-712; CH. 128; July 13, 1918; 40 Stat. 755, as amended)
- Covered in the SDG&E Natural Community Conservation Plan (NCCP; 1995)
- Listed in the CNPS inventory (CNPS, 2001) and shown in *Figure D.3-2, Biological Resources Maps 1, 2a, 2b, 2c, 3 and 5b.*
- Considered to otherwise meet the definition of rare, threatened, or endangered under the California Environmental Quality Act

Special-Status Plant Species

A description of all special-status plant species observed or with the potential to occur within the project area including federal and State listing status are summarized in *Table D.3-2* and shown in *Figure D.3-2*, *Biological Resources Maps 1*, *2a*, *2b*, *2c*, *3 and 5b*.

Special-Status Animal Species

A description of all special-status wildlife species observed or with the potential to occur within the project area including federal and State listing status are summarized in *Table D.3-3* and shown in *Figure D.3-2*, *Biological Resources Maps 1, 2a, 2b, 2c, 3 and 5b*. In addition to the species listed in *Table D.3-3*, special consideration was given to the observation of raptor nests. During reconnaissance surveys, several active nests for the red-tailed hawk, Cooper's hawk (*Accipiter cooperii*), and other potential raptor or common raven (*Corvus corax*) nests were observed on various tower structures and trees within or near the project area.

TABLE D.3-2
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR OBSERVED IN THE
OMPPA TRANSMISSION PROJECT AREA

Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
Acil	Acanthomintha ilicifolia	San Diego thornmint	Covered; NE	FT/SE	1B, 2-3-2	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ annual herb/ April- June	Low to moderate potential to occur. CNDDB records document occurrences within 1.5 miles of Sycamore to Fanita and South Bay to Sicard Street segments. Not observed during 2004 surveys (Essex 2005).
Adca	Adolphia californica	California adolphia		None/ None	2, 1-3-1	Chaparral, coastal scrub, valley and foothill grassland; clay/ shrub/ December-May	High potential to occur. Observed during field surveys (Essex 2004). Location was not recorded but probably within CSS habitat.
	Agave shawii	Shaw's agave	Covered; NE	None/ None	2, 3-3-1	Coastal bluff scrub, coastal scrub/ shrub/ May-July	Very low potential to occur; appropriate habitat generally not present. Nearest CNDDB record is approximately 4.8 miles to the west.
Amch	Ambrosia chenopodiifolia	San Diego bur-sage		None/ None	2, 3-3-1	Coastal scrub/ shrub/ April-June	High potential to occur. CNDDB reports at mile-post 31.
Ampu	Ambrosia pumila	San Diego ambrosia	Covered; NE	FE/ None	1B, 3-3-2	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; often in disturbed areas/ perennial herb/ May -October	High potential to occur. CNDDB reports within 1 mile of Sycamore to Fanita and South Bay to Sicard Street segments (mile-post 41 - 42). Not observed during 2004 surveys (Essex 2005).
	Aphanisma blitoides	Aphanisma	Covered; NE	None/ None	1B, 2-2-2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ annual herb/ March - June	Very low potential to occur; appropriate habitat generally not present. Nearest CNDDB record is approximately 4.3 miles to the west. Not observed during 2004 surveys (Essex 2005).
	Arctostaphylos glandulosa ssp. Crassifolia	Del Mar manzanita	Covered	FE/ None	1B, 3-3-2	Maritime chaparral; sandy/ shrub/ December-April	Low potential to occur. CNDDB documents occurrences within 3 miles of the Sycamore Canyon Substation.

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Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
	Arctostaphylos otayensis	Otay manzanita	Covered	None/ None	1B, 3-2-3	Chaparral, cismontane woodland; metavolcanic/ shrub/ January- March	Low potential to occur. CNDDB documents occurrences approximately three miles to the east of the alignment. A small area of appropriate soils is present onsite; however, suitable habitat is not present.
Asde	Astragalus deanei	Dean's milk-vetch		None/ None	1B, 3-3-3	Chaparral, coastal scrub, riparian forest / perennial herb/ February- May	Moderate to high potential to occur. CNDDB reports a population near mile-post 32, and suitable habitat is present.
	Astragalus oocarpus	San Diego milk-vetch		None/ None	1B, 3-2-3	Chaparral (openings), cismontane woodland/perennial herb/May- August	Low potential to occur; appropriate habitat generally not present.
	Astragalus tener var. titi	Coastal dunes milk-vetch	Covered; NE	FE/SE	1B, 3-3-3	Coastal bluff scrub, coastal dunes, coastal prairie/ annual herb/ March-May	No potential to occur; appropriate habitat not present. Not observed during 2004 surveys (Essex 2005).
	Atriplex coulteri	Coulter's saltbush		None/ None	1B, 2-2-2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/ March- October	Low to moderate potential to occur; appropriate habitat and soils present.
Atpa	Atriplex pacifica	South Coast saltscale		None/ None	1B, 3-2-2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/ annual herb/ March-October	High potential to occur. CNDDB reports at mile-post 31.
Atse	Atriplex serrenana var. davidsonii	Davidson's saltscale		None/ None	1B, 3-2-2	Coastal bluff scrub, coastal scrub; alkaline/ annual herb/ April- October	High potential to occur. CNDDB reports at mile-post 50 - 52.
	Baccharis vanessae	Encinitas baccharis	Covered; NE	FT/SE	1B, 2-3-3	Chaparral, cismontane woodland; sandstone/ deciduous shrub/ August-November	Low potential to occur; appropriate habitat is present, and CNDDB records report an occurrence approximately 3.5 miles to the northwest; however, suitable soils not present.

TABLE D.3-2	
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR OBSERVED	IN THE
OMPPA TRANSMISSION PROJECT AREA	

Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
	Berberis nevinii	Nevin's barberry	Covered; NE	FE/SE	1B, 3-3-3	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/ shrub/ March- April	Not known from vicinity; not expected to occur.
Beem	Bergerocactus emoryi	Golden-spined cereus		None/ None	2, 2-2-1	Closed-cone conifer forest, chaparral, coastal scrub; sandy/ shrub/ May-June	Moderate potential to occur; CNDDB reports population approximately 0.5 miles from mile-post 32 on same soil type.
	Brodiaea filifolia	Thread-leaved brodiaea	Covered	FT/SE	1B, 3-3-3	Chaparral (openings) coastal scrub, cismontane woodland, playas, valley and foothill grassland, vernal pools; often clay/ bulbiferous herb/ March-June	Low potential to occur; site is outside the known range of the species.
	Brodiaea orcuttii	Orcutt's brodiaea	Covered	None/ None	1B, 1-3-2	Closed-cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/ bulbiferous herb/ May- July	Moderate potential for occurrence. CNDDB documents occurrences within 1.5 miles of the project.
	Calamagrostis koelerioides	Dense or San Diego reedgrass	Covered	none/none	None	Gabbroic or metavolcanic soils in sd and orange counties within chaparral	Not known from vicinity; not expected to occur.
	Calochortus dunnii	Dunn's mariposa lily	Covered	None/SR	1B, 2-2-2	Closed-cone conifer forest, chaparral; gabbroic or metavolcanic/ bulbiferous herb/ April-June	Low potential due to lack of appropriate soils.
	Camissonia lewisii	Lewis's evening primrose		None/ None	3, ?-?-2	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/ annual herb/ (March)-June	Low to moderate potential to occur; suitable habitat and soils are present.

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Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
	Caulanthus simulans	Payson's jewelflower	Covered	None/ None	4, 1-2-3	Chaparral, coastal scrub; sandy and granitic/ annual herb/ March- (June)	Not expected to occur. Not known to occur in the vicinity.
	Caulanthus stenocarpus	Slender-pod jewelflower	Covered	None/SR	None	Chaparral, coastal scrub/ annual herb; fire follower/ March-May	Moderate potential. CNDDB documents occurrences within 3 miles of the Sycamore to Fanita segment.
	Ceanothus cyaneus	Lakeside ceanothus	Covered	None/ None	1B, 3-2-2	Closed-cone conifer forest, chaparral/ shrub/ April-June	Low to moderate potential; appropriate habitat is present.
	Ceanothus verrucosus	Wart-stemmed ceanothus	Covered	None/ None	2, 2-2-1	Chaparral/ shrub/ December-April	Low potential to occur; areas of alignment with appropriate habitat are located far from known occupied locations.
	Centromadia [Hemizonia] parryi spp. Australis	Southern tarplant		None/ None	1B, 3-3-2	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/ annual herb/ May-November	Very low potential to occur; site is outside known range of species. Little suitable habitat onsite.
	Centromadia [Hemizonia] pungens ssp. Laevis	Smooth tarplant		None/ None	1B, 2-3-3	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/ annual herb/ April- September	Low potential to occur; appropriate habitat generally not present.
Chgl	Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion		None/ None	1B, 2-3-2	Coastal bluff scrub, coastal dunes/ annual herb/ January - August	High potential to occur. CNDDB reports at mile-post 50 - 52.
	Chorizanthe orcuttiana	Orcutt's spineflower	Covered; NE	FE/SE	1B, 3-3-3	Maritime chaparral, closed-cone conifer forest, coastal scrub/ annual herb/ March-May	Low potential to occur; although appropriate habitat is present, nearest location reported by CNDDB is approximately 4.5 miles to the west of the alignment.
	Chorizanthe staticoides ssp.chrysacantha	Orange County turkish rugging	Covered	None	None	Coastal scrub; sandy/ annual herb/ April-June	According to CNPS Inventory, this is a synonym for C. staticoides, "a common taxon." Low potential to

	TABLE D.3-2 SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR OBSERVED IN THE OMPPA TRANSMISSION PROJECT AREA										
Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur				
							occur, nearest location is Otay Mountain.				
	Chorizanthe polygonoides var. longispina	Long-spined spineflower		None/ None	1B, 2-2-2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland; often clay/ annual herb/ April-July	Low to moderate potential to occur; appropriate soils and habitat are present.				
	Clarkia delicata	Delicate clarkia		None/ None	1B, 2-2-2	Chaparral, cismontane woodland/ annual herb/ April-June	Low potential to occur; although suitable habitat is present, site is somewhat outside the range of the species.				
	Comarostaphylis diversifolia ssp. Diversifolia	Summer holly		None/ None	1B, 2-2-2	Chaparral, cismontane woodland/ shrub/ April-June	Low to moderate potential to occur; appropriate habitat is present.				
Coma	Cordylanthus maritimus ssp. maritimus	Salt marsh bird's-beak	Covered; NE	FE/SE	1B, 2-2-2	Coastal dunes, coastal saltwater marshes and swamps/ annual herb/ May-October	High potential to occur. Known to be present within the Sweetwater marsh. CNDDB reports at mile-post 47-48, within 1 mile of the Miguel to South Bay and South Bay to Sicard Street segments. Not observed during 2004 surveys (Essex 2005).				
Coor	Cordylanthus orcuttianus	Orcutt's bird's-beak	Covered	None/ None	2, 3-3-1	Coastal scrub/ annual herb/ (March) - (September)	High potential to occur. CNDDB reports at mile-post 33-34.				
	Coreopsis maritime	Sea dahlia		None/ None	2, 2-2-1	Coastal bluff scrub, coastal scrub/ perennial herb/ March-May	Low potential to occur. Although CNDDB reports adjacent to alignment (approximately 1/3 mile away), between mile-post 46 and 47, the alignment in this area does not support vegetation.				
	Corethrogyne filaginifolia var. incana	San Diego sand aster		None/ None	1B, 3-3-2	Chaparral, coastal bluff scrub, coastal scrub/ perennial herb/ June-September	Low potential to occur. Nearest report of this species in CNDDB is approximately 3.7 miles to the west of the alignment on coastal bluffs.				

TABLE D.3-2							
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR OBSERVED IN THE							
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	Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	Covered	None/ None	1B, 3-3-3	Maritime chaparral (openings), coastal bluff scrub, coastal scrub; sandy/ perennial herb/ May- September	Very low potential to occur; site is outside known range of species. Nearest location reported by CNDDB is approximately 7.8 miles to the west.
	Cupressus forbesii	Tecate cypress	Covered	None/ None	1B, 3-3-2	Closed-cone conifer forest, chaparral/ evergreen tree/ NA	No potential to occur. Site is outside known range of species, and appropriate habitat within the alignment is located approximately 20 miles to the east.
Deco	Deinandra [=Hemizonia] conjugens	Otay tarplant	Covered	FT/SE	1B, 3-3-2	Coastal scrub, valley and foothill grassland; clay/ annual herb/ May- June	High potential to occur in grasslands and coastal sage scrub. Observed during 2002 and 2003 surveys near the Miguel Substation and associated substation roads (Essex, 2004) but was not mapped. CNDDB reports at mile-post 29.
	Dudleya attenuata ssp. orcuttii	Orcutt's dudleya		None/ None	2, 3-3-1	Coastal bluff scrub, chaparral, coastal scrub; rocky or gravelly/ perennial herb/ May-July	Very low potential to occur. Only known from one location in the county at Border Field State Park, approximately five miles to the southwest of the project site.
	Dudleya brevifolia	Short-leaved dudleya	Covered; NE	None/SE	1B, 3-3-3	Maritime chaparral (openings), coastal scrub, Torrey sandstone/ perennial herb/ April	Very low potential to occur; alignment is outside the known range of species.
	Dudleya multicaulis	Many-stemmed dudleya	Covered	None/ None	1B, 1-2-3	Chaparral, coastal scrub, valley and foothill grassland; often clays/ perennial herb/ April-July	Not expected to occur; not known to occur in the vicinity.
Duva	Dudleya variegata	Variegated dudleya	Covered	None/ None	1B, 2-2-2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools/ perennial herb/ May-June	High potential to occur. CNDDB reports within 0.5 mile of the Sycamore to Fanita segment, and mile-post 51-52. Observed during a 2003 survey (Essex, 2004) but was not mapped.

Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
	Dudleya viscida	Sticky dudleya	Covered	None/ None	1B, 2-2-3	Coastal bluff scrub, chaparral, coastal scrub; rocky/ perennial herb/ May-June	Low potential to occur; appropriate soils and habitat not present in the vicinity of known CNDDB locations.
	Ericameria palmeri ssp. palmeri	Palmer's goldenbush	Covered; NE	None/ None	2, 3-2-1	Chaparral, coastal scrub/ shrub/ (July)-November	Low potential to occur; only known from six locations in the county, all to the east of the project site. Nearest location in CNDDB is approximately 5.5 miles to the east. Not observed during 2004 surveys (Essex 2005).
	Erodium macrophyllum	Round-leaved filaree		None/ None	2, 2-3-1	Cismontane woodland, valley and foothill grassland/ annual herb/ Mar - May	Very low potential to occur; only two locations known in the county according to CNDDB. Very little suitable habitat present onsite.
	Eryngium aristulatum var. parishii	San Diego button-celery	Covered	FE/SE	1B, 2-3-2	Coastal scrub, valley and foothill grassland, vernal pools, mesic areas/annual-perennial herb/April- June	Low potential to occur; suitable habitat generally not present.
	Euphorbia misera	Cliff spurge		None/ None	2, 2-2-1	Coastal bluff scrub, coastal scrub; rocky/ shrub/ December-August	Low potential to occur; little suitable habitat present.
Fevi	Ferocactus viridescens	San Diego barrel cactus	Covered	None/ None	2, 1-3-1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/ shrub/ May-June	High potential to occur. CNDDB documents occurrences along the Sycamore to Fanita (mile-post 1 - 4) and Miguel to South Bay segments (mile-post 30-31, 51). Observed during surveys and mapped (Essex, 2004).
Frpa	Frankenia palmeri	Palmer's frankenia		None/ None	2, 3-3-1	Coastal dunes, coastal saltwater marsh and swamps, playas/ perennial herb/ May-July	High potential to occur. Known to occur at the Sweetwater Marsh; mile-post 40-41.
	Fremontodendron mexicanum	Mexican flannelbush		FE/SR	1B, 3-3-2	Closed-cone conifer forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentintite/ evergreen shrub/ March-June	Moderate potential to occur on metavolcanic soils between mile- post 28 and 29.

Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
	Geothallus tuberosa	Campbell's liverwort		None/ None	1B, 3-3-3	Coastal scrub (mesic), vernal pools/ ephemeral liverwort/ NA	Very low potential to occur; appropriate habitat generally not present.
	Githopsis diffusa ssp. filicaulis	Mission Canyon bluecup		None/ None	3, ?-3-3	Chaparral (mesic, disturbed areas)/ annual herb/ April-June	Very low potential to occur; appropriate habitat generally not present. Nearest CNDDB record is seven miles to the east.
	Grindelia hirsutula var. hallii	San Diego gumplant		None/ None	1B, 2-2-3	Chaparral, lower montane conifer forest, meadows and seeps, valley and foothill grassland/ perennial herb/ July-October	No potential to occur; site is outside the known range of species.
	Harpagonella palmeri	Palmer's grapplinghook	Covered	None/ None	4, 1-2-1	Chaparral, coastal scrub, valley and foothill grassland; clay/ annual herb/ March-May	High potential to occur within Sycamore to Fanita segment.
	Hazardia orcuttii	Orcutt's hazardia		None/ST	1B, 3-3-2	Chaparral, coastal scrub; often clay/ evergreen shrub/August- (October)	Very low potential to occur; only one occurrence known in California–this occurrence is located approximately 15 miles to the northwest of the project site.
	Isocoma menziesii var. decumbens	Decumbent goldenbush		None/ None	1B, 2-2-2	Chaparral, coastal scrub (sandy, often disturbed areas/ shrub/ April- November	Moderate potential to occur; appropriate habitat is present onsite; and CNDDB lists an occurrence at approximately mile-post 40. Two additional occurrences are located within two miles of mile-post 28.
lvha	Iva hayesiana	San Diego marsh-elder		None/ None	2, 2-2-1	Marshes and swamps, playas/ perennial herb/ April-September	High potential to occur. Several known occurrences are in close proximity to mile-post 28 and 29 (CNDDB).
Lagl	Lasthenia glabrata ssp. coulteri	Coulter's goldfields		None/ None	1B, 2-3-2	Saltwater marsh and swamps, playas, vernal pools/ annual herb/ February-June	High potential to occur. Known to occur at Sweetwater Marsh; mile- post 40-41.

Abbrev.							
Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
	Lepechinia cardiophylla	Heart-leaved pitcher sage	Covered	None/ None	1B, 3-2-2	Closed-cone conifer forest, chaparral, cismontane woodland/ shrub/ April-July	Very low potential to occur; alignment is generally outside the range of the species.
	Lepechinia ganderi	Gander's pitcher sage	Covered	None/ None	1B, 3-1-2	Closed-cone conifer forest, chaparral, coastal scrub, valley and foothill grassland; gabbroic and metvolcanic/ shrub/ June-July	Moderate potential to occur on metavolcanic soil between mile-post 28- 29.
Levi	Lepidium virginicum var. robinsonii	Robinson's pepper-grass		None/ None	1B, 3-2-2	Chaparral, coastal scrub/ annual herb/ January-July	High potential to occur. CNDDB reports from mile-post 28 -33, 50- 52.
	Lotus crassifolius var. otayensis	Otay Mtn. lotus		None/ None	1B, 3-3-2	Chaparral (metavolcanic, often in disturbed areas)/ perennial herb/ May-August	Moderate potential to occur on metavolcanic soil between mile-post 28-29.
Lonu	Lotus nuttallianus	Nuttall's lotus	Covered	None/ None	1B, 3-3-2	Coastal dunes, coastal scrub/ annual herb/ March-June	High potential to occur. CNDDB reports from Sweetwater Marsh, mile-post 48 - 49 and near mile-post 38.
Моса	Mobergia calculiformis	Light gray lichen		None/ None	None	Coastal scrub (late successional), desert; pebbles and rocks/ lichen/ NA	High potential to occur; CNDDB reports from mile-post 50 - 52.
	Monardella hypoleuca ssp. lanata	Felt-leaved monardella	Covered	None/ None	1B, 2-2-2	Chaparral, cismontane woodland/ rhizomatous herb/ May-August	Low potential to occur on metavolcanic soil between mile-post 28 and 29; although suitable soil is present, suitable habitat is not.
Moli	Monardella linoides var. viminea	Willowy monardella	Covered; NE	FE/SE	1B, 2-3-2	Closed-cone conifer forest, chaparral, coastal scrub, riparian forest, woodland, and scrub/ perennial herb/ June-August	High potential to occur. CNDDB documents major populations within the area of the Sycamore to Fanita segment. Not observed during 2004 surveys (Essex 2005).
	Monardella stoneana	Jennifer's monardella		None/ None	1B, 3-2-2	Closed cone coniferous forest, coastal scrub, chaparral, riparian scrub; ususally rocky intermittent	Low potential to occur; appropriate habitat generally not present. Known from only five occurrences in

TABLE D.3-2
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						streambeds/ perennial herb/ June - Sept	the San Ysidro Mountains (CNPS 2001).
Mucl	Muilla clevelandii	San Diego goldenstar	Covered	None/ None	1B, 2-3-2	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ bulbiferous herb/May	High potential to occur. CNDDB reports from mile-post 4, 51. 28 -33, 50. Observed in 2003 but locations were not mapped (Essex, 2004).
	Myosurus minimus ssp. apus	Little mousetail	Covered	None/ None	3, 2-3-2	Vernal pools, valley and foothill grassland; alkaline/ annual herb/ March-June	Low potential to occur; appropriate habitat generally not present.
Nast	Nama stenocarpum	mud nama		None/ None	2, 3-2-1	Marsh and swamps, lake margins and riverbanks/annual-perennial herb/January-July	Low potential to occur. Although CNDDB reports two occurrences within 0.6 miles of the alignment at mile-post 28 and 29, habitat along the alignment in this area is not suitable to support this species.
Nafo	Navarretia fossalis	Spreading (prostrate) navarretia	Covered	FT/ None	1B, 2-3-2	Chenopod scrub, shallow freshwater marsh and swamps, vernal pools/annual herb/April- June	Low potential to occur; lack of suitable habitat.
Napr	Navarretia prostrata	Prostrate navarretia		None/ None	1B, 2-3-3	Coastal scrub, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/April-July.	High potential to occur. CNDDB reports from mile-post 42.
Nede	Nemacaulis denudata var. denudata	Coast woolly-heads		None/ None	1B, 2-2-2	Coastal dunes/ herb/ April - September	Low potential to occur. Although CNDDB reports from mile-post 42 and 51-52, land at this location is developed and therefore not able to support coast woolly-heads.
	Nemacaulis denudata var. gracilis	Slender woolly-heads		None/ None	2, 2-2-1	Coastal dunes, desert dunes, Sonoran desert scrub/ annual herb/ (March)-May	No potential to occur; suitable habitat is not present.
	Nolina interrata	Dehesa nolina (beargrass)	Covered	None/SE	1B, 3-3-2	Chaparral; gabbroic, metavolcanic or serpentinite/ perennial herb/ June-July	Low potential to occur; appropriate habitat and soils not simultaneously present.

TABLE D.3-2	
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR O	BSERVED IN THE
OMPPA TRANSMISSION PROJECT AREA	

Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
Орса	Opuntia californica var. californica	Snake cholla	Covered; NE	None/ None	1B, 3-3-2	Chaparral, coastal scrub/ stem succulent/ April-May	Moderate to high potential. CNDDB documents occurrences within 1 mile of the Miguel to South Bay and South Bay to Sicard Street segments. Not observed during 2004 surveys (Essex 2005).
	Orcuttia californica	California Orcutt grass	Covered	FE/SE	1B, 3-3-2	Vernal pools/ annual herb/ April- August	Low potential due to lack of suitable habitat.
	Ornithostaphylos oppositifolia	Baja California birdbrush		None/SE	2, 3-3-1	Chaparral/ evergreen shrub/ January-April	Very low potential to occur; known from only one occurrence near San Ysidro.
Phst	Phacelia stellaris	Brand's phacelia		None/ None	1B, 3-3-2	Coastal dunes, coastal scrub/ annual herb/ March-June	High potential to occur. CNDDB reports from mile-post 51.
	Pinus torreyana spp. torreyana	Torrey pine	Covered	None/ None	1B, 3-2-3	Closed-cone conifer forest, chaparral; sandstone/ evergreen tree/ NA	Very low potential to occur; site is outside known range of species.
	Pogogyne abramsii	San Diego mesa mint	Covered	FE/SE	1B, 2-3-3	Vernal pools/ annual herb/ April- July	Low potential to occur; suitable habitat is not present.
	Pogogyne nudiuscula	Otay Mesa mint	Covered; NE	FE/SE	1B, 3-3-2	Vernal pools/ annual herb/ May- July	Low potential based on lack of suitable habitat. CNDDB documents occurrences within 2.5 miles of the South Bay to Sicard Street segment.
	Quercus cedrocensis	Cedros Island oak		None/ None	2, 3-2-1	Closed cone coniferous forest, chaparral, coastal scrub/ evergreen tree/ April -May	Very low potential to occur; only known from four occurrences near Otay Mountain.
	Quercus dumosa	Nuttall's scrub oak		None/ None	1B, 2-3-2	Chaparral, coastal scrub, closed- cone coniferous forest; sandy and clay loam/ evergreen shrub/ February-March	High potential to occur within Sycamore to Fanita and Miguel to South Bay segments.
	Ribes canthariforme	Moreno currant		None/ None	1B, 3-1-3	Chaparral / deciduous shrub / Feb - April	Low potential to occur; site is approximately nine miles to the west of any occurrence recorded by the CNDDB.

	TABLE D.3-2 SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR OBSERVED IN THE OMPPA TRANSMISSION PROJECT AREA										
Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur				
	Ribes viburnifolium	Santa Catalina Island gooseberry		None/ None	1B, 2-2-2	Chaparral, cismontane woodland/ evergreen shrub/ February - April	No potential to occur; only one location known from San Diego County, in San Clemente Canyon (Beauchamp 1986).				
	Rosa minutifolia	Small-leaved rose	Covered	None/SE	2, 3-3-1	Chaparral, coastal scrub/ decidous shrub/ January-June	Very low potential to occur; only one location known from the county, approximately 2.3 miles from the alignment.				
Samu	Salvia munzii	Munz's sage		None/ None	2, 2-2-1	Chaparral, coastal scrub/ shrub/ February-April	Moderate to high potential; eastern region of the project is in the known range of the species. Several occurrences are near the eastern edge of alignment. One occurrence is located 0.14 miles from mile-post 29.				
	Satureja chandleri	San Miguel savory	Covered	None/ None	1B, 2-2-2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic or metavolcanic/ perennial herb/ March-May	Low to moderate potential to occur onsite. Small areas of suitable habitat and soils are present on eastern end of alignment, and CNDDB reports an occurrence approximately three miles to the east on metavolcanic soils that are also present near mile-post 28 and 29.				
	Senecio aphanactis	Rayless ragwort		None/ None	2, 3-2-1	Chaparral, cismontane woodland, coastal scrub; alkaline/ annual herb/ January-April	Low to moderate potential to occur. Suitable areas of habitat and soils are present near eastern end of alignment, and CNDDB reports an occurrence approximately 2.2 miles to the east on metavolcanic soils, which are present near mile-post 28 and 29.				
	Senecio ganderi	Gander's ragwort (butterweed)	Covered	None/SR	1B, 3-2-3	Chaparral (burns and gabbroic outcrops)/ perennial herb/ April-	Very low potential to occur; suitable habitat not present and site is to the				

	TABLE D.3-2 SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING OR OBSERVED IN THE OMPPA TRANSMISSION PROJECT AREA									
Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur			
						Мау	west of any known location of this species.			
	Solanum tenuilobatum	narrow-leaved nightshade	Covered	None/ None	None	chaparral, coastal scrub; metavolcanic soils/ sub-shrub/ March - April	Considered a synonym of <i>S. xanti</i> , a common taxon (CNPS). Low potential to occur within the metavolcanic soils. Nearest recorded location is at Lower Otay Lake.			
	Spaerocarpus drewei	Bottle liverwort		None/ None	1B, 3-3-3	Chaparral, coastal scrub; openings, soil/ ephemeral liverwort/ NA	Very low potential to occur; although mile-post 48 is located approximately 0.5 miles from a location reported by CNDDB, appropriate habitat does not exist along the alignment in this area to support bottle liverwort.			
	Stemodia durantifolia	Purple stemodia		None/ None	2, 3-3-1	Sonoran desert scrub (often mesic, sandy) / perennial herb / January - December	Low to moderate potential to occur; CNDDB reports three locations in close proximity to the alignment, and appropriate habitat is present.			
	Stylocine citroleum	Oil nest-straw		None/ None	1B, 3-3-3	Chenopod scrub, coastal scrub?, valley and foothill grassland / annual herb / March - April	Very low potential to occur. One historic location at the western region of the alignment is the only location reported by the CNDDB. It is thought that this species may have been extirpated from the county (CNPS 2001).			
Sues	Suaeda esteroa	Estuary seablite		None/ None	1B, 2-2-2	Coastal salt marshes and swamps/ perennial herb/ May - (January)	High potential to occur. CNDDB reports from mile-post 40 - 41, 50 - 52.			
	Tetracoccus dioicus	Parry's tetracoccus	Covered	None/ None	1B, 3-2-2	Chaparral, coastal scrub/ deciduous shrub/ April-May	High potential to occur. CNDDB reports from mile-post 28 - 33.			
	Triquetrella claifornica	Coastal triquetrella		None/ None	1B, 3-2-2	Coastal scrub, coastal bluff scrub/ moss/ NA	Very low potential to occur; only one occurrence is known from the county, and this occurrence is			

Abbrev. Used in Figures ¹	Scientific Name	Common Name	SDG&E NCCP Status	Status Federal/State	CNPS List, R-E-D	Primary Habitat Associations/ Life Form/ Blooming Period	Status Onsite or Potential to Occur
							approximately five miles east of the Sycamore-to-Fanita segment.
Vila	Viguiera laciniata	San Diego sunflower		None/None	4, 1-2-1	Coastal sage and maritime succulent scrub / February – June	High potential to occur. CNDDB reports locations near Miguel Substation.

NOTES: ¹ Sensitive species abbreviations shown in *Figure D.3-2*.

San Diego Gas & Electric (SDG&E) Natural Community Conservation Plan (NCCP)

NE = Considered a narrow endemic species under SDG&E's NCCP

U.S. Fish and Wildlife Service (USFWS)

FE = Federally listed, endangered: species in danger of extinction throughout a significant portion of its range

- FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
- FPE = Federally proposed endangered

California Department of Fish and Game (CDFG)

- SE = State listed, endangered
- ST = State listed, threatened
- SR = State listed, rare

California Native Plant Society (CNPS)

List 1B = Plants rare, threatened, or endangered in California and elsewhere

List 2 = Plants rare, threatened, or endangered in California but more common elsewhere

List 3 = Plants about which more information is needed

List 4 = Plants of limited distribution: a watch list

R = Rarity:

1 = rare but in sufficient number that extinction potential is low

2 = distribution in a limited number of occurrences

3 = distribution in highly restricted occurrences or present in small numbers

E = Endangerment:

1 = not endangered;

- 2 = endangered in a portion of range
- 3 = endangered throughout range
- D = Distribution:
 - 1 = more or less widespread outside California
 - 2 = rare outside California;
 - 3 = endemic to California
- ? = Unsure of status

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA									
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR				
	Amphibians									
	Bufo californicus	Arroyo toad	Covered	FE/CSC	Stream channels for breeding(typically third order); adjacent stream terraces and uplands for foraging and wintering	Low potential. Suitable habitat is not present.				
	Ensatina klauberi	Large-blotched salamander		FS/CSC	Oak woodland, chaparral, coastal sage scrub, coastal dunes, conifer forest	Moderate potential based on habitat.				
	Rana aurora draytonii	California red- legged frog	Covered; NE	FT/CSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow- moving water; uses adjacent uplands	Low potential due to lack of suitable habitat.				
	Spea (=Scaphiopus) hammondii	Western spadefoot toad	Covered	BLM/CSC	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	Moderate potential. Suitable habitat is present within the Sycamore to Fanita and Miguel to South Bay segments. CNDDB documents occurrence within one mile of the project.				
WESP	Taricha torosa torosa	Coast range newt		None/CSC	Grassland, woodland, forest, but require ponds, reservoirs or slow-moving streams for reproduction.	Low potential due to lack of suitable breeding areas.				
REPTILES										
	Anniella pulchra pulchra	Silvery legless lizard		FS, CNF/CSC	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats	Moderate potential based on suitable habitat within the project.				
	Arizona elegans occidentalis	Coastal (California) glossy snake		None/None	Grassland, chaparral, coastal sage scrub, woodlands in sandy and rocky substrates	Moderate potential based on suitable habitat within the project.				
ROBO	Charina [Lichanura] trivirgata roseofusca	Coastal rosy boa	Covered	FS, BLM/None	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	Moderate potential. Suitable habitat is found within the Sycamore to Fanita segment. CNDDB documents occurrence within two miles of the segment.				

	SENSI	TIVE ANIMA		S OBERVED	BLE D.3-3 OR POTENTIALLY OCCURRIN IISSION PROJECT AREA	G WITHIN THE
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR
	Emys (=Clemmys) marmorata pallida	Southwestern pond turtle	Covered	FS, BLM/CSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Low potential due to absence of suitable habitat within the project.
WEWT	Aspidoscolis tigris stejnegeri	Coastal western whiptail		None/None	Coastal sage scrub, chaparral	High potential based on presence of suitable habitat and known locations
OTWT	Aspidoscolis [Cnemidophorus] hyperythra beldingi	Orange-throated whiptail	Covered	None/CSC	Coastal sage scrub, chaparral, grassland, juniper and oak woodland	High potential. Suitable habitat is found throughout the project area. CNDDB documents occurrence within one mile of Sycamore to Fanita, and Miguel to South Bay segments.
	Coleonyx variegatus abbotti	San Diego banded gecko	Covered	None/None	Cismontane chaparral, coastal sage scrub, desert scrub; granite outcrops	Moderate potential. Generally distributed in more Sonoran and Mohave desert areas.
RDRA	Crotalus ruber ruber	Northern red- diamond rattlesnake	Covered	None/CSC	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	High potential. Suitable habitat is present in the Sycamore to Fanita segment. CNDDB documents occurrence within one mile of the project.
	Diadophis punctatus similis	San Diego ringneck snake	Covered	FS/None	Moist habitats; woodland, forest, grassland, chaparral; typically found under debris	Moderate potential based on habitat.
COSK	Eumeces skiltonianus interparietalis	Coronado Island skink	Covered	BLM/CSC	Grassland, riparian and oak woodland; found in litter, rotting logs, under flat stones	Moderate potential. Suitable habitat is present in the Sycamore to Fanita segment. CNDDB documents occurrence within two miles of the Sycamore to Fanita segment.
SDHL	Phrynosoma coronatum (blainvillei population)	Coast horned lizard	Covered	FS/CSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest	High potential. Suitable habitat is found within the Sycamore to Fanita segment. CNDDB documents occurrence within two miles of the segment.
	Salvadora hexalepis virgultea	coast patch- nosed snake	Covered	None/CSC	Chaparral, washes, sandy flats, rocky areas	Moderate potential within the Sycamore to Fanita segment.
	Thamnophis sirtalis ssp.	South coast garter snake		None/CSC	Marshes, meadows, sloughs, ponds, slow-moving water courses	Moderate potential within marsh areas of Sweetwater marsh.

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA										
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR					
	Thamnophis hammondii	Two-striped garter snake	Covered	FS, BLM/CSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Moderate potential within drainage that contain suitable habitat such as the drainage south of Proctor Valley Road and San Diego River.					
BIRDS											
COHA	Accipiter cooperii	Cooper's hawk	Covered	None/CSC (nesting)	Riparian and oak woodlands, montane canyons	High potential. CNDDB documents occurrence within 1.5 miles of the sycamore to Fanita segment. Observed during surveys (Essex, 2004).					
	Accipiter striatus	Sharp-shinned hawk		None/CSC (nesting)	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats	High potential to occur as a wintering species or migrant. No potential to occur as a breeding species.					
TRBL	Agelaius tricolor	Tricolored blackbird	Covered	BCC, USBC, BLM/CSC (nesting colony)	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	Low potential due to lack of suitable habitat.					
RCSP	Aimophila ruficeps canescens	So. Cal. rufous- crowned sparrow	Covered	None/CSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	High potential within the Sycamore to Fanita and Miguel to South Bay segments.					
GRSP	Ammodramus savannrum	Grasshopper sparrow	Covered	PIF, SMC/None	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	High potential to occur within grassland areas in the vicinity of the Miguel substation and the Sycamore to Fanita segment.					
	Amphispiza belli belli	Bell's sage sparrow		BCC/CSC	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	High potential to occur within the Sycamore to Fanita segment based on knowledge of adjacent areas.					
	Aquila chrysaetos	Golden eagle	Covered	BCC, BLM/CSC, P, CDF	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	High potential to occur as a foraging species within the Sycamore to Fanita and Miguel to South Bay segments. No nesting habitat is present along the project.					
	Ardea alba	Great egret		None/CDF (rookery)	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	High potential as a foraging species. No known rookeries within the project area.					

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA									
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR				
	Ardea herodias	Great blue heron		None/CDF (rookery)	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	High potential as a foraging species. No known rookeries within the project area.				
	Asio flammeus	Short-eared owl		USBC/CSC (nesting)	Grassland, prairies, dunes, meadows, irrigated lands, saline and freshwater emergent wetlands	Low potential to occur within the grasslands near the Miguel substation and emergent vegetation in the Sweetwater Marsh area.				
	Asio otus	Long-eared owl		None/CSC (nesting)	Riparian, live oak thickets, other dense stands of trees, edges of coniferous forest	Moderate potential to occur within the drainage near the Sycamore to Fanita segment.				
	Athene cunicularia	Western burrowing owl	Covered; NE	BLM, BCC/CSC (burrow sites)	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	Moderate potential to occur within the Sycamore to Fanita segment and the grasslands near the Miguel Substation. Habitat is marginal in the Miguel to South Bay and South Bay to Sicard Street Segments. CNDDB documents occurrences within two miles. Not observed during 2004 surveys (Essex 2005).				
	Baeolophus inornatus	Oak titmouse		USBC/None (nesting)	Oak woodlands	Low potential due to small amount of suitable habitat.				
	Botarus lentiginosus	American bittern		None/None	Emergent habitat of freshwater marsh and vegetation borders of ponds and lakes	Low potential due to small amount of suitable habitat.				
	Branta canadensis	Canada Goose	Covered	none/none	wetlands, open water, grasslands, emergent waters	Moderate potential to forage in grasslands and marsh areas during migration.				
	Buteo swainsoni	Swainson's hawk	Covered	FS, USBC, BCC/ST (nesting)	Open grassland, shrublands, croplands	Moderate potential to forage in grasslands during migration. Does not breed in the region.				
	Buteo regalis	Ferruginous hawk	Covered	BCC, BLM/CSC (wintering)	Open, dry country, grasslands, open fields, agriculture	Moderate potential to forage in grasslands during migration. Does not breed in the region.				
CAWR	Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	Covered; NE	FS, BCC/CSC	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub	High potential to occur within the project area in the Sycamore to Fanita and Miguel to South Bay segments. CNDDB documents occurrences within three miles of the				

	SENSIT	TIVE ANIMA		S OBERVED	BLE D.3-3 OR POTENTIALLY OCCURRIN ISSION PROJECT AREA	G WITHIN THE
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR
						Sycamore to Fanita and South Bay to Sicard Street segments. Not observed during 2004 surveys (Essex 2005).
SNPL	Charadrius alexandrinus nivosus	Western snowy plover	Covered	FT, BCC, USBC/CSC (only coastal nesting population is listed) (nesting)	Nesting habitat along coast includes sandy or gravelly beaches; inland nesting habitat is barren or sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds, riverine sand bars, and sewage, salt-evaporation and agriculture waste- water ponds	High potential to occur within the Sweetwater Marsh area. CNDDB documents occurrences within one mile of the Miguel to South Bay and South Bay to Sicard Street segments.
	Charadrius montanus	Mountain plover	Covered	USBC, BCC/CSC	Nests in open, shortgrass prairies or grasslands; winters in shortgrass plains, plowed fields, open sagebrush, and sandy deserts	Low potential to occur within the grassland near the Miguel substation.
	Chlidonias niger	Black tern		None/CSC (nesting colony)	Freshwater lakes, marshes, ponds, coastal lagoons	Low potential to occur within the Sweetwater marsh area.
NOHA	Circus cyaneus	Northern harrier	Covered	None/CSC (nesting)	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	High potential to occur within the Sycamore to Fanita, Miguel to South Bay, and South Bay to Sicard Street segments as a foraging species. Low potential for nesting.
	Coccyzus americanus occidentalis	Western yellow- billed cuckoo		FC, BCC, FS/SE (nesting)	Dense, wide riparian woodlands and forest with well-developed understories	No potential to occur due to lack of suitable habitat.
	Dendroica petechia brewsteri	Yellow warbler		None/CSC (nesting)	Nests in lowland and foothill riparian woodlands dominated by cottonwoods, alders and willows; winters in a variety of habitats	High potential to occur based on habitat. Observed during surveys (Essex, 2004).
	Egretta rufescens	Reddish egret	Covered	None/None	Saltmarsh, mudflats, coastal lagoons	Moderate potential to occur within the Sweetwater Marsh and Sweetwater River.
	Egretta thula	Snowy egret		USBC/None (rookery)	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	High potential as a foraging species. No known rookeries within the project area.
	Elanus leucurus	White-tailed kite		MNBMC/ P (nesting)	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	High potential to occur within the Sycamore to Fanita and Miguel to South Bay segments.

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA								
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR			
	Empidonax traillii extimus	Southwestern willow flycatcher	Covered	FE, USBC/SE (nesting)	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	Moderate potential to occur within riparian habitat of the San Diego River.			
HOLA	Eremophila alpestris actia	California horned lark		None/CSC	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	High potential to occur throughout the project area.			
	Falco columbarius	Merlin		None/CSC (wintering)	Nests in open country, open coniferous forest, prairie; winters in open woodlands, grasslands, cultivated fields, marshes, estuaries and sea coasts	Moderate potential to occur as a wintering species or migrant. Does not breed in the region.			
	Falco mexicanus	Prairie falcon		BCC/CSC (nesting)	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Moderate potential to occur as a wintering species or migrant. Does not breed in the region.			
PEFA	Falco peregrinus anatum	American Peregrine falcon	Covered	Delisted, BCC/SE, P, CDF (nesting)	Nests on cliffs, buildings, bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	High potential to occur as a foraging species along the coastal portion of the project.			
	Haliaeetus leucocephalus	Bald eagle	Covered	FT (proposed delisted)/SE, P, CDF (nesting and wintering)	Seacoasts, rivers, swamps, large lakes; winters at large bodies of water in lowlands and mountains	Low potential to occur within the project area.			
	Icteria virens	Yellow-breasted chat		None/CSC (nesting)	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush.	High potential to occur in the alignment within areas of suitable habitat.			
	Ixobrychus exilis	least bittern		None/CSC (nesting)	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water	Low potential due to lack of suitable habitat.			
LOSH	Lanius Iudovicianus	Loggerhead shrike		BCC/CSC	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments			
BLRA	Laterallus jamaicensis coturniculus	California black rail		USBC, BCC/ST, P	Coastal saltmarsh	High potential to occur in the Sweetwater Marsh area. CNDDB documents occurrence in the marsh.			

TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE									
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	PA TRANSM STATUS FEDERAL/ STATE ²	ISSION PROJECT AREA PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR			
LBCU	Numenius americanus	Long-billed curlew	Covered	BCC, USBC/CSC (nesting)	Emergent, mudflats	Moderate potential as a foraging species. No known nesting sites within the project area.			
	Nycticorax nycticorax	Black-crowned night heron		BLM/None (rookery)	Marshes, ponds, reservoirs, estuaries; nests in dense-foliaged trees and dense fresh or brackish emergent wetlands	High potential as a foraging species. No known rookeries within the project area.			
OSPR	Pandion haliaetus	Osprey		None/CSC, CDF (nesting)	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	High potential to occur as a foraging species along the South Bay to Sicard Street segment.			
LSASP	Passerculus sandwichensis rostratus	Large-billed Savannah sparrow	Covered	None/CSC (wintering)	Saltmarsh, pickleweed	High potential to occur as a wintering species within the Sweetwater Marsh area.			
BSASP	Passerculus sandwichensis beldingi	Belding's Savannah sparrow	Covered	None/SE	Saltmarsh, pickleweed	High potential to occur within the Sweetwater Marsh area. CNDDB documents occurrences within one mile of the South Bay to Sicard Street and Sicard Street to Old Town segments.			
	Pelecanus erythrorhynchos	American white pelican		None/CSC (nesting colony)	Open water, coastal bays, large inland lakes	Low potential to occur within the project. May be observed foraging offshore during winter.			
	Pelecanus occidentalis californicus	California brown pelican	Covered	FE/SE, P	Open sea, large water bodies, coastal bays and harbors	Low potential to occur within the project. May be observed foraging offshore or flying overhead.			
	Phalacrocorax auritus	Double-crested cormorant		None/CSC (rookery site)	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes	Low potential to occur within the project. No rookery sites are present.			
	Picoides nuttallii	Nuttall's woodpecker		USBC/None (nesting)	Nests in deciduous (often willow) woodlands, oak woodlands, orchards, suburban plantings	High potential to occur within drainages containing riparian habitat along the entire project alignment.			
	Piranga flava	Hepatic tanager		None/CSC (nesting)	Coniferous forests mixed with oak, pinyon-juniper woodland	Low potential to occur due to lack of suitable habitat.			
	Piranga rubra	Summer tanager		None/CSC (nesting)	Nests in riparian woodland; winter habitats include parks and residential areas	Low potential to occur as a breeding bird. May be occasionally observed during winter.			

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA							
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR		
	Plegadis chihi	White-faced ibis	Covered	None/CSC (rookery)	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries	Moderate potential to occur within grasslands for foraging. No rookeries are present.		
CAGN	Polioptila californica californica	coastal California gnatcatcher	Covered	FT, USBC/CSC	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments. Observed during surveys (Essex, 2004).		
	Progne subis	Purple martin		None/CSC (nesting)	Nests in tall sycamores, pines, oak woodlands, coniferous forest; forages over riparian, forest and woodland	Low potential to occur due to lack of habitat.		
LFCR	Rallus longirostris levipes	Light-footed clapper rail	Covered	FE, USBC/SE, P	Coastal saltmarsh	High potential to occur within the Sweetwater Marsh area. CNDDB docuements occurrences within one mile of the South Bay to Sicard Street segment.		
	Riparia riparia	Bank swallow		None/ST (nesting)	Nests in lowland country with soft banks or bluffs; open country and water during migration	Low potential. Suitable nesting habitat is not present within project area.		
WEBL	Siala mexicana	Western bluebird	Covered	None/None	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments		
LETE	Sterna antillarum browni	California least tern	Covered	FE, USBC/SE, P (nesting colony)	Coastal waters, estuaries, large bays and harbors, mudflats; nests on sandy beaches	Moderate potential to forage along the coast. Marginal nesting habitat is present by the Chula Vista Wildlife Reserve and the D street fill in Chula Vista. CNDDB documents occurrences within 1 mile of the South Bay to Sicard Street and Sicard Street to Old Town segments.		
	Sterna caspia	Caspian tern		BCC/None (nesting colony)	Coastal waters, estuaries, large bays and harbors, mudflats	Moderate potential to forage along the coast.		
	Sterna elegans	Elegant tern	Covered	BCC/CSC	Coastal waters, estuaries, large bays and harbors, mudflats	Moderate potential to forage along the coast.		
	Toxostoma redivivum	California thrasher		USBC/None	Coastal sage scrub and chaparral	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments. Observed during survey (Essex, 2004).		

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA								
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR			
LBVI	Vireo bellii pusillus	Least Bell's vireo	Covered	FE, USBC, BCC/SE (nesting)	Nests in southern willow scrub with dense cover within one to two meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas	Moderate potential to occur based on suitable habitat. Marginal habitat is present where the project crosses the San Diego River. CNDDB documents occurrences within one mile of the South Bay to Sicard Street segment.			
MAMMALS	;								
Chaetodipus californicus femoralis									
	Chaetodipus Northwestern fallax fallax San Diego pocket mouse Diego		None/CSC	Coastal sage scrub, grassland, sage scrub- grassland ecotones, sparse chaparral; rocky substrates, loams and sandy loams	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments				
	Chaetodipus fallax pallidus	Pallid San Diego pocket mouse	Covered	None/CSC	Coastal sage scrub, grassland, sage scrub- grassland ecotones, sparse chaparral; rocky substrates, loams and sandy loams	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments			
	Lepus californicus bennettii			None/CSC	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	High potential to occur in the Sycamore to Fanita, Miguel to South Bay, and South Bay to Sicard Street Segments. Observed during surveys (Essex, 2004).			
intermedia desert woodrat woodland with rock outcrops, cactus thickets, dense undergrowth to Sicard Street Segments. Obset						High potential to occur in the Sycamore to Fanita, Miguel to South Bay, and South Bay to Sicard Street Segments. Observed in the Miguel to South Bay segment (Essex, 2004).			
MUDE	Odocoileus hemionus	Mule deer	Covered	None/Regulated	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open areas adjacent to cover	High potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments. Observed during surveys (Essex, 2004).			
	Onychomys torridus ramona	Southern grasshopper mouse	Covered	None/CSC	Grassland, sparse coastal sage scrub	High potential to occur in the Sycamore to Fanita, Miguel to South Bay, and South Bay to Sicard Street Segments.			
	Perognathus Iongimembris	Pacific pocket mouse	Covered; NE	FE/CSC	Grassland, coastal sage scrub with sandy soils; along immediate coast	Low potential due to urbanization of the region. USFWS analyzed alignment and			

	TABLE D.3-3 SENSITIVE ANIMAL SPECIES OBERVED OR POTENTIALLY OCCURRING WITHIN THE OMPPA TRANSMISSION PROJECT AREA							
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	SDG&E NCCP Status	STATUS FEDERAL/ STATE ²	PRIMARY HABITAT ASSOCIATIONS	STATUS ONSITE OR POTENTIAL TO OCCUR		
	pacificus					location of project and determined that there was no concern regarding this species.		
	Puma concolor	Mountain lion	Covered	Regulated	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	Moderate potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments		
	Taxidea taxus	American badger	Covered	None/CSC	Dry, open treeless areas, grasslands, coastal sage scrub	Low potential to occur in the Sycamore to Fanita and Miguel to South Bay Segments.		
INVERTEB	RATES							
	Branchinecta sandiegonensis	San Diego fairy shrimp	Covered	FE/None	Small, shallow vernal pools, occasionally ditches and road ruts	Low potential due to lack of vernal pool habitat.		
QCB	Euphydryas editha quino	quino checkerspot butterfly		FE/None	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant <i>Plantago erecta</i> and nectar plants must be present	Low potential. Survey conducted in 2004 was negative.		
	Euphyes vestris barbisoni	dun skipper		None/None	Restricted to wetland, riparian, oak woodlands, and chaparral habitats supporting host plan <i>Carex spissa</i>	Low potential to occur due to lack of habitat.		
	Lycaena hermes	Hermes copper		None/None	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant <i>Rhamnus crocea</i>	Moderate to high potential to occur within the Sycamore to Fanita and Miguel to South Bay segments. Observed during 2003 (Essex, 2004).		
	Panoquina errans	Wandering (=Salt marsh skipper)	covered; NE	None/None	Salt marsh from Los Angeles to Baja, Mexico	High potential to occur within the Sweetwater marsh area. Not observed during 2004 surveys (Essex 2005).		
	Streptocephalus woottoni	Riverside fairy shrimp	Covered	FE/None	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids	Low potential. No vernal pools are documented for the project area.		
FISH								
	Eucyclogobius newberryi	Tidewater goby		FE/CSC	Low-salinity waters in coastal wetlands	No potential. Does not occur within the project area.		

	SENSI	TIVE ANIMA	 S OBERVED	BLE D.3-3 OR POTENTIALLY OCCURRIN ISSION PROJECT AREA	G WITHIN THE
Abbrev. Used in Figures ¹	SCIENTIFIC NAME	COMMON NAME	STATUS ONSITE OR POTENTIAL TO OCCUR		
	Gila orcuttii	Arroyo chub	FS/CSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud	No potential. Does not occur within the project area.

¹ Abbreviations listed in this column correspond to species notations in figures. Additional species shown on the figures but not listed in this table include RTHA, red-tailed hawk, and MOBU, monarch butterfly.

² The federal and state status of species primarily is based on the Special Animals List (January 2000), California Department of Fish and Game. It has been updated as needed. This version is dated November 17, 2000.

Federal Designations:

- BCC Fish and Wildlife Service Birds of Conservation Concern
- BLM Bureau of Land Management Sensitive Species
- FC Federal Candidate
- FE Federally-listed Endangered
- FS Forest Service Region 5 Sensitive Species
- FT Federally-listed as Threatened
- USBC United States Bird Conservation Watch List. Includes the Partners in Flight Watch List, the U.S. Shorebird Conservation Plan Watch List, and the Waterbird Conservation for the Americas Watch List.

State Designations:

- CDF California Department of Forestry and Fire Protection Sensitive Species
- CSC California Special Concern Species
- P California Department of Fish and Game Protected and Fully Protected Species
- SE State-listed as Endangered
- ST State-listed as Threatened
- Regulated Regulated by CDFG

D.3.1.6 Critical Habitat

Under the federal ESA, the USFWS, to the extent prudent and determinable, is required to designate critical habitat for endangered and threatened species (16 United States Code §1533 (as)(3), "Critical habitat" describes the areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter.

Designated critical habitats require special management and protection of existing resources, such as water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat designation delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

Critical habitat for the coastal California Gnatcatcher, Quino checkerspot butterfly, and Otay tarplant occurs near portions of the existing ROW (*Figure D.3-1*). Critical habitat for least Bell's vireo, western snowy plover, and arroyo toad is not crossed by the project ROW but exists within three miles of the project area.

The designation of critical habitat for the coastal California gnatcatcher specifically excludes areas within functioning HCPs, such as SDG&E's NCCP. Although not designated as critical habitat, habitat for the coastal California gnatcatcher is located within the project area. Designated critical habitat for the Quino checkerspot butterfly ends just north of the Miguel Substation. Critical habitat for the Otay tarplant has been designated within 0.5 mile of the Miguel Substation and on either side of the ROW from mile-post 28 to 33.

As shown in *Figure D.3-1*, critical habitat for the least Bell's vireo is in the vicinity of Fanita Junction. This portion of the least Bell's vireo's critical habitat comes within 0.5 mile of the Fanita Junction, but is not crossed by the existing ROW. Critical habitat for the western snowy plover is located approximately three miles west of the South Bay to Sweetwater River and Sweetwater River to Sicard Street segments, along Imperial Beach and Silver Strand Beach.

A critical habitat designation affects only projects subject to federal action. Under projects subject to federal action, potential impacts to designated or proposed critical habitat will be evaluated by the USFWS under Section 7 of the ESA. The project may be subject to a federal action in that it may be required to obtain a Section 404 permit from the U.S. Army Corps of Engineers (ACOE). The ACOE will determine whether it will consult with the USFWS under Section 7 with respect to critical habitat.

D.3.1.7 Regional Wildlife Corridors

Wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as 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 the exchange of genetic traits between populations (Beier and Loe, 1992). Wildlife corridors are considered sensitive by resource and conservation agencies.

Much of the existing Sycamore to Fanita, Miguel to South Bay, South Bay to Sweetwater River and Sweetwater River to Sicard Street transmission corridor segments intersect with, or act as, wildlife movement corridors. In many areas where the transmission corridor is adjacent to development, the transmission corridor itself connects urban canyons and other open space, allowing wildlife to travel unhindered through otherwise developed areas. The presence of bodies of water and mudflats in the vicinity of the project area, including the San Diego River, Sweetwater River, and Sweetwater Marsh, attract migratory bird species as part of the Pacific Flyway. These waterbodies provide rest and forage areas for numerous birds during the migratory seasons. Terrestrial wildlife species tend to travel along natural drainages that provide protective cover from predators, as well as a source of forage. There are several natural drainage features within the project area that may facilitate wildlife movement through the region, including the San Diego River, West Sycamore Canyon, Long Canyon Creek, Rice Canyon Creek, and Telegraph Canyon Creek.

D.3.1.8 Summary of Sensitive Biological Resources by Project Segment

This section complements preceding sections and biological resources appendices on species occurrence by providing additional detail and CNDDB record information within specific segments of the project area.

Sycamore Canyon Substation to Fanita Junction

This segment of the project area traverses relatively undisturbed areas of native vegetation that occur on steep slopes that alternate between ridgelines and drainages. The segment supports the following vegetation/habitat communities: coastal sage scrub, coastal sage scrub/chaparral, southern mixed chaparral, waters of the U.S., nonnative grassland, disturbed, and developed land. The main drainage known as West Sycamore Canyon is located at the eastern edge of the project. This canyon is composed of a braided channel that contains alluvial fan sage scrub in the more upstream reaches which transitions to Southern sycamore alder riparian woodland in the





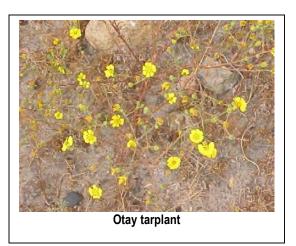
more downstream portions. Much of this channel is outside of the project mapping area; however it is immediately adjacent to the project. Sensitive plant species observed or recorded within this segment of the project area include: San Diego barrel cactus and willowy monardella. A large population of willowy monardella is present within the West Sycamore Canyon drainage and the tributary drainages to this main drainage. Sensitive animal species observed or documented within this segment of the project area include: coastal California gnatcatcher, orange-throated whiptail, loggerhead shrike, San Diego horned lizard, southern mule deer, and a number of potential raptor

nests on the transmission line poles. A relatively dense record of California gnatcatchers is documented in the database for the more southern portion of this segment. Habitat suitable for the Hermes copper butterfly was also observed.

Miguel Substation to South Bay Power Plant Area

This segment is located in an area of suburban and urban development with some areas of undeveloped lands immediately adjacent to the Miguel substation. The development areas are interspersed with open space consisting of native vegetation canyons in the more eastern portion. In the western portion of the segment, much of the project ROW is composed of regularly mowed areas that may be interspersed with sparse shrubs. Some areas of the ROW in the more western portion are used as community parks and some areas have been incorporated into

parking areas. This segment of the project area traverses areas that support the following vegetation/habitat communities: coastal sage scrub disturbed coastal sage scrub, southern willow scrub, non-native grassland, mule fat scrub, drainage, eucalyptus woodland, disturbed, and developed land. Sensitive plant species observed within this segment of the project area include: Otay tarplant, California adolphia and San Diego barrel cactus. A large population of Otay tarplant is known to be present within the grasslands southeast of the Miguel substation and an Otay tarplant preserve is being established within this area.





Sensitive animal species observed or documented within this segment of the project area include: coastal California gnatcatcher, coastal cactus wren, Cooper's hawk, least Bell's vireo, San Diego horned lizard. A relatively large number of California gnatcatchers are documented for the segment that is between the Miguel substation and Corral Canyon Road and also the segment that crosses Rice Canyon. In addition, nests supporting the red-tailed hawk and other raptors were

observed within this segment of the project area.

South Bay Power Plant Area to Sweetwater River Transition Area

This segment of the project area traverses areas that are developed predominantly, however the project crosses an area of native habitat at the Sweetwater marsh. The following vegetation/ habitat communities are present within this segment: broom baccharis scrub, drainages including Chollas Creek and the 7th Street drainage, the open water of the Sweetwater River, salt

marsh, disturbed salt marsh, mudflat disturbed habitat, and developed land. Sensitive plant species observed within this segment of the project area include: salt marsh bird's beak, Nuttall's lotus, Palmer's frankenia, estuary seablite, and Coulter's goldfields. Sensitive animal species observed or documented within this segment of the project area include: peregrine falcon, osprey, northern harrier, Belding's savannah sparrow, long-billed curlew, light-footed clapper rail, western snowy plover, large-billed savannah sparrow, California black rail, and California least tern.



Sweetwater River Transition Area to Sicard Street Transition Area

This segment of the project area traverses an area of the Sweetwater marsh located north of the Sweetwater River and beyond that is located in areas that are developed predominantly. The following vegetation/habitat communities are present within this segment: broom baccharis

scrub, drainages including Chollas Creek and the 7th Street drainage, salt marsh, disturbed salt marsh, and developed land. No sensitive plant species are recorded for this segment; however, due to the presence of the coastal salt marsh habitat, it is likely that salt marsh bird's beak, Nuttall's lotus, Palmer's frankenia, estuary seablite, Coulter's goldfields, and San Diego ambrosia are located within the area. Sensitive animal species observed or documented within this segment of the project area include: Belding's savannah sparrow, light-footed clapper rail.



Sicard Street Transition Area to Old Town Substation

This segment of the project area traverses highly developed urban areas. One portion of the segment crosses the San Diego River where a patch of native habitat occurs. Within this segment, the vegetation/land covers include: southern willow scrub and developed land. Sensitive species documented to be within the project area at the San Diego River include Coulter's goldfields and Belding's savannah sparrow.

D.3.2 Applicable Regulations, Plans, and Standards

D.3.2.1 Federal Regulations

Bald and Golden Eagle Protection Act. This act prohibits the take, possession, sale, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS.

Clean Water Act. The Clean Water Act (CWA) is intended to restore and maintain the quality and biological integrity of the nation's waters. It prohibits the discharge of pollutants into "waters of the United States (U.S.)" without a National Pollutant Discharge Elimination System (NPDES) permit from the Environmental Protection Agency (EPA). By issuing NPDES permits, the EPA can regulate the discharge of pollutants to protect water quality.

Section 404 of the CWA provides that whenever any person dredges or fills waters of the U.S. (e.g., streams, wetlands, lakes, bays) a permit is required from the ACOE. In SWANCC vs. ACOE, the Supreme Court ruled that the jurisdiction of ACOE does not extend to isolated, intrastate, non-navigable waters and wetlands, such as vernal pools, ephemeral streams, and wetlands not associated with a stream channel. ACOE has issued 44 separate Nationwide Permits (NWP) for different types of projects with minor impacts to wetlands. Depending on the level of impact, projects qualifying for an NWP may be required to provide ACOE with Pre-Construction Notification of the impacts and meet other restrictions. Projects with greater wetlands impacts than those allowed under one of the NWPs require an Individual Permit. The process of obtaining an individual permit includes public notice and response to all comments received; the permit addresses public and private needs, alternatives to achieve project purposes, if needed, and beneficial and/or detrimental effects of the project on public and private uses.

Section 401 of CWA requires that an applicant for a federal license or permit to discharge into navigable waters must provide the federal agency with a water quality certification, declaring that the discharge will comply with water quality standards requirements of the CWA. ACOE issuance of a Section 404 permit triggers the requirement that a section 401 certification also be obtained. In California, the Regional Water Quality Control Boards issue this certification.

Federal Endangered Species Act. The Federal Endangered Species Act (FESA) designates threatened and endangered animals and plants and provides measures for their protection and recovery. "Take" of listed animal species and of listed plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm includes any act which actually kills or injures fish or wildlife, including

significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage the habitat of (i.e. harm) listed wildlife species require approval from USFWS for terrestrial species (or from National Marine Fisheries Service [NMFS] for marine species). FESA also generally requires determination of critical habitat for listed species, although an exception for circumstances that would harm the species is widely used. If critical habitat has been designated, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited. FESA Section 7 and Section 10 provide two pathways for obtaining permission to take listed species.

Under Section 7 of FESA, a federal agency that authorizes, funds, or carries out a project that "may affect" a listed species or its critical habitat must consult with USFWS (or NMFS). For example, U.S. Army Corps of Engineers (ACOE) must issue a permit for projects impacting waters or wetlands under ACOE jurisdiction. In a Section 7 Consultation, the lead agency (e.g., ACOE) prepares a biological assessment that analyses whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, USFWS then has 30 days to respond to the BA by issuing its Biological Opinion (BO) determining whether the project is likely to jeopardize the continued existing species or result in adverse modification of critical habitat. If a "no jeopardy" opinion is provided the project may proceed. If a jeopardy or adverse modification opinion is provided, USFWS may suggest "reasonable and prudent measures" that would result in no jeopardy.

Under Section 10 of FESA private parties with no federal nexus as described above may obtain an Incidental Take Permit to harm listed wildlife species incidental to the lawful operation of a project. To obtain an incidental take permit, the applicant must develop a habitat conservation plan (HCP) that specifies impacts to listed species, provides minimization and mitigation measures and funding, discusses alternative considered and the reasons why such alternatives are not being used. If USFWS finds the HCP will not "appreciably reduce the likelihood of the survival and recovery of the species" it will issue an incidental take permit. Issuance of incidental take permits requires USFWS to conduct an internal Section 7 consultation, thus triggering coverage of any listed plant species or critical habitat present onsite (thus listed plants on private property are protected under FESA if a listed animal is present). Unlike a Section 7 Consultation, USFWS is not constrained by a time limit to issue an incidental take permit.

Migratory Bird Treaty Act. The MBTA implements international treaties between the United States and other nations that protect migratory birds, (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted. The list of migratory birds is extensive, including American crow, common raven, and northern mockingbird.

National Environmental Policy Act. NEPA was enacted to ensure that federal agencies consider environmental impacts by requiring federal agencies to assess the environmental impacts of their proposed actions and consider less-damaging alternatives. In the NEPA process, an Environmental Assessments (EA) is prepared to analyze whether the project will result in significant impacts to the environment. If not, Findings of No Significant Impact (FONSI) are made; the FONSI must include the reasons for the decision, and, if relevant, show which factors were weighted most heavily in the determination. If significant impacts will occur, an Environmental Impact Statement (EIS) must be prepared describing a range of alternatives considered, including a no-action alternative, and comparing their environmental consequences. An environmentally preferable alternative must be identified, but does not need to be selected as the preferred alternative. Mitigation measures must be developed where feasible. The EIS is subject to public review but does not preclude adoption of projects with significant environmental impacts.

Sikes Act. The Sikes Act provides for the cooperation between the Departments of the Interior and Defense with State agencies in maintaining biological resources on military reservations in the U.S. An integrated natural resources management plan (INRMP) is prepared for each site that provides for management and conservation of natural resources in conjunction with support of the military mission. Marine Corps Air Station (MCAS) Miramar has is required under the Sikes Act to develop an INRMP. INRMPs are to be reviewed annually and revised and/or reapproved every five years.

D.3.2.2 State Laws and Regulations

California Coastal Act. The Coastal Act was enacted in 1976 to provide long-term protection of the California coastline and the coastal zone. Within the coastal zone, sensitive habitats, agricultural lands, and scenic values are protected through issuance of development permits, either by the California Coastal Commission (CCC) or by cities and counties in the coastal zone that have established local coastal programs (LCPs) with CCC approval. The CCC also retains permit authority for development along the immediate coastline.

LCPs specify appropriate location, type, and scale of new or changed land and water uses through a land use plan and implementation measures, such as zoning ordinances consistent with the Coastal Act. Because some jurisdictions have subdivided their coastal zone jurisdictions, there are 126 separate LCPs. LCPs must include a description of sensitive coastal resources to be protected, a list of significant adverse impacts that could result from development, a map of the area indicating its size and location and appropriate implementing actions.

Within the project area, LCPs have been certified for the Cities of Chula Vista and National City. Within the City of San Diego, the Barrio Logan/ Harbor 101 area Land Use Plan (LUP) and

Planned District Ordinance, partially comprising the zoning ordinance portion of the LCP, were certified in 1988.

California Endangered Species Act. CESA provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed, but state-listed plants. Take is defined similarly to FESA, and is prohibited for both listed and candidate species. Take authorization may be obtained by the project applicant from California Department of Fish and Game (CDFG) under CESA Sections 2091 and 2081. Section 2091, like FESA Section 7, provides for consultation between a state lead agency under CEQA and CDFG, with issuance of take authorization if the project does not jeopardize the listed species. Section 2081 allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFG to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, and funding of implementation and monitoring of mitigation measures.

California Environmental Quality Act. CEQA was enacted in 1970 to provide for full disclosure of environmental impacts and public before issuance of a permit by state and local public agencies. Qualifying projects include zoning ordinances, issuance of conditional use permits, and variances and the approval of tentative subdivision maps. If a project is regulated under CEQA, the developer completes necessary studies and designs for the project, and identifies the state lead agency for the project. The lead agency conducts an Initial Study that identifies the environmental impacts of the project and determines whether these impacts are "significant". In some cases, the lead agency may skip the preparation of the Initial Study and proceed directly to the preparation of an EIR. The lead agency may prepare a Negative Declaration if it finds no significant impacts; or an EIR if it finds significant, unmitigated impacts. The EIR is subject to more extensive public comment and provides information on the potentially significant impacts, lists ways to minimize these impacts, and discusses alternatives to the project. CEQA only provides a public review process, and projects with significant impacts may be approved if the lead agency makes a finding of overriding considerations.

In addition to state or federally listed species, "sensitive" plants and animals receive consideration under CEQA. Sensitive species include wildlife Species of Special Concern listed by CDFG, and plant species on the California Native Plant Society's List 1A, 1B, or 2.

Fully Protected Species. California Fish and Game Code provides for the highest level of protection mammals, birds, reptiles and amphibians, and fish listed as Fully Protected. Designated species may not be taken or possessed at any time. CDFG cannot issue permits or

licenses that authorize the "take" of any fully protected species, except for certain circumstances such as scientific research and live capture and relocation to protect livestock.

Natural Community Conservation Planning Act. The NCCP Act provides for regional planning to conserve listed and candidate species, their habitats, and natural communities though habitat-based conservation measures while allowing of economic growth and development. The initial application of the NCCP Act was in coastal sage scrub habitat in southern California, home to the California gnatcatcher; it has subsequently been applied to the CAL-FED Bay Delta project and others in northern California.

The southern California coastal sage scrub NCCP region consists of 11 subregions, which may be further divided into subareas corresponding to the boundaries of participating jurisdictions or landowners. In each subregion and subarea, landowners, environmental organizations, and local agencies participate in a collaborative planning to develop a conservation plan acceptable to USFWS and CDFG. The NCCP conservation requires threat impacts be mitigated to a level that contributes to the recovery of listed species, rather than just avoiding jeopardy.

Porter-Cologne Act. The intent of the Porter-Cologne Act is to protect water quality and the beneficial uses of water, and applies to both surface and ground water. Under this law the State Water Resources Control Board develops statewide water quality plans, and the Regional Water Quality Control Boards (RWQCB) develop basin plans, that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter Cologne include isolated waters that are no longer regulated by ACOE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the Act by developing Storm Water Pollution Prevention Plans, Standard Urban Storm Water Mitigation Plans, and other measures in order to obtain a CWA Section 401 certification.

Streambed Alteration Agreement. CDFG must be notified prior to beginning any activity that will obstruct or divert the natural flow of, use material from, or deposit or dispose of material into, a river, stream, or lake, whether permanent, intermittent or ephemeral water bodies. CDFG has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFG and the Applicant is the Streambed Alteration Agreement. The conditions of a Streambed Alteration Agreement and a CWA Section 404 permit often overlap.

D.3.2.3 Regional Policies, Plans, and Regulations

San Diego Multiple Species Conservation Program. The MSCP, approved in 1996, provides a framework for protection of 23 vegetation types and 85 species in southwestern San Diego

County. The Multi-Habitat Planning Area (MHPA) was designated within which the permanent MSCP preserve will be assembled through conservation of lands already in public ownership (85,190 acres), purchase of private lands from willing sellers (27,000 acres), and additional contributions through mitigation for development impacts (63,170 acres). The MSCP is to be implemented through Subarea Plans by the County and eleven cities in the Plan Area. The status of Subarea Plans for the County, City of San Diego, and City of Chula Vista are described below. National City has not initiated its Subarea Plan.

Chula Vista MSCP Subarea Plan. The Chula Vista Subarea Plan provides protection and take authorization for 86 species (85 species convered under the San Diego County MSCP and Quino checkerspot butterfly [*Euphydryas editha quino*]) by preserving 9.243 acres of habitat, including 4,250 acres outside of the City limits. The Chula Vista Subarea Plan was adopted by the City Council in May 2003 and was subsequently approved by USFWS, but without the "no surprises" clause, which restricted additional species protection measures, following the U.S. District Court ruling in *Spirit of the Sage v. Department of Interior*. The Chula Vista City Council has not yet adopted the revised plan. At present, CEQA guidelines prevent projects from interfering with the adoption of the Subarea Plan, although take authorization within the plan area is not provided.

A total of 86 sensitive species (including Quino checkerspot butterfly [*Euphydryas editha editha*]) are considered to be adequately conserved, in return for conservation of approximately 4,993 acres of land within the City of Chula Vista and an additional 4,250 acres within the County of San Diego Multiple Habitat Planning Area (MHPA). The Subarea Plan designates four types of areas with differing degrees of permissible development: 100% Conservation Areas, 75-100% Conservation Area, Development Areas outside of Covered Projects, and Development Areas within Covered Projects. Mitigation requirements for sensitive habitat types and sensitive plant and wildlife species vary depending on the location of the impact and preservation areas and the sensitivity of the habitat. Chula Vista has proposed Habitat Loss and Incidental Take (HLIT) regulations that establish development standards to implement the Subarea Plan.

City of San Diego MSCP Subarea Plan. The San Diego's Subarea Plan was adopted in 1997 allowing the City of San Diego to issue take permits at the local level. This Subarea Plan designates approximately 56, 831 acres as the City's portion of the MHPA; about 90 percent of the MHPA is to be preserved and the remaining 10 percent may be developed.

County of San Diego MSCP Subarea Plan. The County Subarea Plan was approved in March 1998 providing for eventual preservation of 101, 268 acres of habitat within the 252,132-acre plan area. The County Subarea Plan is divided into several segments; the Metro-Lakeside-Jamul Segment is the largest and contains the project area. The Metro-Lakeside-Jamul Segment does

not contain substantial areas of existing public land. The MHPA will be created primarily through land acquisitions from willing sellers and through application of mitigation for impacts from private development projects at the ratios specified in the County's Biological Mitigation Ordinance (BMO).

MCAS Miramar Integrated Natural Resources Management Plan. The MCAS Miramar INRMP (2000) was developed to a USFWS B.O. and ACOE CWA Section 404 permit requirements to develop a multiple species habitat management plan consistent with guidelines for Subarea Plans under the MSCP. The INRMP describes the biological resources on MCAS Miramar, and designates five levels of Management Areas (MA). MA1 contains vernal pools (3,013 acres); MA2, non-vernal pool threatened and endangered species (4510 acres); MA3, riparian areas, wetlands and wildlife movement corridors (2,649 acres); MA4, other undeveloped areas (8,484 acres); and MA5, developed areas (4,207 acres). The INRMP provides guidance on avoidance and minimization of impacts and mitigation measures depending on the MA level of the areas impacted. There are no specific policies related to siting transmission lines and substations; however, a general policy of the INRMP requires site approval by the Corps Public Works Department for all facilities related activities. These facilities include, but are not limited to, development, reconstruction, repairs, utilities, leases and easements.

SDG&E Subregional Natural Community Conservation Plan. The SDG&E NCCP was approved in December 1995, authorizing take of 110 species (covered species) resulting from impacts from SDG&E's ongoing activities including installation, use, maintenance, and repair operations and expansion to those systems. The SDG&E NCCP, USFWS and CDFG have, concurrent with the approval date, entered into a long-term Implementing Agreement which describes the legal rights and obligations regarding each of these parties with respect to the implementation and maintenance of this NCCP. The Implementing Agreement authorizes SDG&E to conduct its activities within the Plan Area provided they are performed in conformance with the Plan. The NCCP prescribes as "operational protocols" various protection, mitigation, and conservation measures SDG&E must implement as part of its covered activities to ensure the survivability and conservation of protected species and their habitat. The 61 Operational Protocols provided in SDG&E's NCCP (see Appendix 3 to this EIR) include provisions for personnel training, pre-activity studies, maintenance, repair and construction of facilities, including access roads, survey work, and emergency repairs. SDG&E's NCCP does not exempt projects subject to permits from the CPUC, the Coastal Commission, etc. thereby triggering the requirement for CEQA and NEPA review, using the SDG&E NCCP for the evaluation of impacts to covered species and their habitats. SDG&E's NCCP also has defined a number of plant and animal species as narrow endemics. These species are restricted in their distribution, may have rigid or narrow ecological requirements, and generally have low population numbers. As such, take authorization of these species is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency

work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat would not be covered by the NCCP.

Under its NCCP, SDG&E consults with the USFWS and CDFG on certain project or activities in natural areas by preparing "pre-activity surveys" that evaluate the scope and nature of potential impacts in advance of construction or maintenance activities. The pre-activity survey, when submitted, initiates consultation with the USFWS and CDFG under established timeframes to identify potential impacts and feasible avoidance, minimization, and/or mitigation measures as described in the NCCP.

SDG&E's NCCP allows for up to 400 acres of impacts in natural areas before requiring an amendment to the NCCP. The NCCP anticipates 124 acres of grading impacts in natural areas over the next 25 years based on current technology, construction methods and forecasts for populations and General Plans. Mitigation for these impacts include: avoidance whenever possible accomplished by the implementation of the 61 operational protocols; allowing use of SDG&E fee-owned ROW for wildlife corridors to connect regional conservation areas; establishment of 240 acres of mitigation credits which will be debited to mitigate for actual impacts as projects are realized; and use of restoration and enhancement sometimes instead of debits to the mitigation credits and sometimes in addition to such debits.

As described in the Implementing Agreement for the SDG&E NCCP, USFWS, CDFG and SDG&E agree that absent unforeseen circumstances, the mitigation measures provided in SDG&E's NCCP constitute the only mitigation measures that shall be required for any activity covered by the Plan where it results in an impact to a covered species or its habitat.

The OMPPA Transmission Project falls within the area where SDG&E's utility operations are governed by the NCCP, with the exception of the areas on MCAS Miramar. For the proposed OMPPA Transmission Project, SDG&E has adopted the mitigation measures and operational protocols contained in the NCCP (see *Appendix 3* to this EIR) as well as project-specific protocols (APMs). While the project area is located within areas included within the County of San Diego and the City of San Diego's, SDG&E's public utility activities, such as the Proposed Project, are not subject to the regulatory jurisdiction of such local governments and, therefore, are not governed by the terms and conditions of such plans. However, in implementing its NCCP for the project, SDG&E would coordinate with the County of San Diego, City of San Diego, and other jurisdictions to achieve consistency to the extent feasible. Where consistency is not feasible, SDG&E's NCCP provides for appropriate protocols and mitigation measures to protect natural community and natural resource values in these conservation-planning areas.

D.3.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.3.3.1 Definition and Use of Significance Criteria

Significance criteria for impacts to biological resources were developed based on Section 15065 and Appendix G of the CEQA Guidelines and Section 21083 of the Public Resources Code. Significant impacts to biological resources are not limited to projects affecting only State or federally listed endangered species. A species that is not federal- or State-listed will also be considered rare or endangered if it can be shown to meet the following criteria (CEQA Guidelines Section 15380):

- The survival and reproduction of the species in the wild is in immediate jeopardy from one or more causes
- The species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens
- The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

In addition, substantial effects to local polices or ordinances protecting biological resources and existing and proposed local and regional large-scale biological conservation plans and/or objectives and/or HCPs and/or the NCCP Process Guidelines will also be considered to be significant.

Botanical Resources Impacts Significance

The following criteria are used to assess the significance of potential project impacts to affected botanical resources (vegetation communities and plant species). All impacts that are defined as significant in Section 15065 of the CEQA Appendix G Guidelines have been designated as significant in this EIR. Significant impacts would be those that result in:

- Substantial disturbance of a state and/or federally-listed, proposed, candidate, or special status plant species or its habitat (*i.e.*, those species on Lists 1b and 2 of the CNPS Inventory).
- A substantial reduction in the numbers of a state and/or federally-listed, proposed, candidate, or special status plant species.
- Threaten to eliminate a plant community.
- Indirect loss of a state and/or federally-listed, proposed, candidate, or special status plant species or its habitat.

- Substantial adverse effect on a sensitive natural community as identified in local or regional plans.
- Filling or degradation of wetlands and waters subject to the jurisdiction of the Corps pursuant to the federal CWA (no net loss of wetlands)
- Creation of substantial barriers for dispersal of plant species
- Compaction of soils, clearing of vegetation, or other activities that substantially increase erosion and sedimentation
- Introduction of non-native plant species or the facilitation of dispersal of existing populations of non-native plants
- Substantial effect to proposed and designated critical habitat for a federally-listed plant species

Wildlife Impacts Significance Criteria

Evaluation of impacts to wildlife resources considers the magnitude of impact (quantity), the rarity of the resource (sensitivity), and susceptibility of the resource to impacts (quality). Significance criteria for wildlife impacts are defined in Section 15065 of the CEQA Appendix G Guidelines. The following criteria are used to assess the significance of potential project impacts to affected wildlife resources. Significant impacts would be those that would:

- Substantially reduce the habitat for a fish and/or wildlife species.
- Cause a fish or wildlife population to drop below a self-sustaining level.
- Threaten to eliminate an animal community.
- Cause substantial impacts to large tracts of wildlife habitat or areas that serve as important wildlife linkages or corridors thus interfering with the movement of resident or migratory fish or wildlife species.
- Reduce the number, restrict the range, or substantially affect a state and/or federally listed, proposed, candidate, or special status animal species (*e.g.*, State species of special concern, protected, or fully protected species) or its habitat.
- Adversely affect species under the protection of the Migratory Bird Treaty Act.
- Substantial effect to proposed and designated critical habitat for a federally-listed animal species

Bird Electrocution/Collision Impacts Significance Criteria

The following criteria are used to assess the significance of potential project impacts relating to bird electrocution/collisions. Significant impacts would be those that would:

- Interfere substantially with the movement of any resident or migratory wildlife species
- Adversely affect species under the protection of the Migratory Bird Treaty Act

• Substantially increase the potential for electrocution of bird species at substation and structure locations.

D.3.3.2 Applicant Proposed Measures

Table D.3-4 presents the APMs proposed by SDG&E to avoid or minimize the project's potential impacts to biological resources, along with other environmentally important resources. These APMs are in addition to the 61 operational protocols outlined in the SDG&E's NCCP and provided in *Appendix 3* to this EIR. The following APMs provide project-specific detailed actions relative to the location and habitats within this project.

	TABLE D.3-4								
A	APPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES								
APM No.	Description								
1	Except when not feasible, all project vehicle movement would be restricted to existing access roads and access roads constructed as a part of the project and determined and marked by SDG&E in advance for the contractor, contractor-acquired accesses, or public roads. New access road construction for the project would be allowed year-round. However, when feasible, every effort would be made to avoid constructing roads during the nesting season. When it is not feasible to keep vehicles on existing access roads or to avoid constructing new access roads during the nesting, breeding, or flight season, SDG&E would perform three site surveys in the area where the work is to occur. The surveys would be performed to determine presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include the least Bell's vireo, arroyo southwestern toad, coastal California gnatcatcher, Quino checkerspot butterfly, Southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Cooper's hawk, golden eagle, western burrowing owl, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, southern mule deer, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and the CDFG in accordance with its NCCP and consult on reasonable mitigation measures to avoid or minimize for potential impacts prior to vehicle use off existing access roads or the construction of new access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. Parking or driving underneath oak trees is not allowed in order to protect root structures. In addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, and other construction activities, which could interfere with plant photosynthesis, a speed limit of 15								
2	The area limits of project construction and survey activities would be predetermined based on the temporary and permanent disturbance areas noted on the final design engineering drawings to minimize environmental effects arising from the project, with activity restricted to and confined within those limits. Survey personnel shall keep survey vehicles on existing roads. During project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat would require prior approval from the project biological resource monitor in conformance with APMs 20 and 21. Hiking off roads or paths for survey data collection is allowed year-round as long as other APMs are met. Stringing of new wire and reconductoring for the project would be allowed year-round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and all vehicles used during stringing remain on project access roads. Where stringing requires that the conductor drag on the brush or ground or vehicles leave project access roads, SDG&E would perform three site surveys to determine presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include the least Bell's vireo, arroyo southwestern toad, coastal California gnatcatcher, Quino checkerspot butterfly, Cooper's hawk,								

	TABLE D.3-4
Al	PPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES
APM No.	Description
	Southern California rufous-crowned sparrow, grasshopper sparrow, golden eagle, coastal cactus wren, western burrowing owl, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, southern mule deer, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable and feasible mitigation measures for potential impacts, prior to dragging wire on the ground or through brush, or taking vehicles off project access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity where any sensitive cultural resources or wildlife habitats are encountered in the field.
3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Maintenance of cut and fill slopes created by project construction activities would consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.
4	In areas where recontouring is not required, vegetation would be left in place wherever feasible and original ground contour would be maintained to avoid excessive root damage and allow for resprouting.
5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration would occur as required by the governmental agency having jurisdiction. The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts should never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor. Cleared vegetation would be hauled off-site to a permitted disposal location. To limit impact to existing vegetation, appropriately sized equipment (e.g., bulldozers, scrapers, backhoes, bucket-loaders, etc.) would be used during all ground disturbance and recontouring activities.
6	Potential hydrologic impacts would be minimized through the use of BMPs such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures will be designed to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.
7	 Prior to construction, all SDG&E, contractor, and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the APM and to comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures, erosion control, dust suppression, and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address: a. federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; b. the importance of these resources and the purpose and necessity of protecting them; and c. methods for protecting sensitive cultural, paleontological, and ecological resources.
11	To the extent feasible, access roads would be built at right angles to the streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or

TABLE D.3-4 APPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES APM No. Description washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U. S." or "waters of the state." Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the U.S. Army Corps of Engineers, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings, but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and streambanks (e.g., towers would not be located within a stream channel; construction activities would avoid sensitive features). Prior to construction in streambeds and washes, SDG&E would perform three pre-activity surveys to determine the presence or absence of endangered riparian species. Endangered riparian species for which surveys would be performed include the least Bell's vireo and arrovo southwestern toad. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. In addition, road construction would include dust-control measures (e.g., watering of construction areas to suppress dust) during construction in sensitive areas, as required. Erosion control during construction in the form of intermittent check dams and culverts should also be considered to prevent alteration to natural drainage patterns and prevent siltation. 12 In the construction and operation of the project, SDG&E would comply with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting air guality, water guality, wildlife and its habitat, and cultural resources. 17 Prior to construction, the boundaries of plant populations designated as sensitive by the USFWS or CDFG, cultural resources, and other resources designated sensitive by SDG&E and the resource agencies would be clearly delineated with clearly visible flagging or fencing. The flagging and fencing shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction and maintenance activities. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with APM 21, and the responsible resource agency(ies) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of the presence of any covered plant species to be removed in the work area would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither the USFWS nor CDFG has removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the work and cause a take of such plant(s), if minimization measures are not implemented. 20 Brush clearing around any project facilities (e.g., towers, poles, substations) for fire protection, visual inspection, or project surveying in areas which have been previously cleared or maintained within a two-year or shorter period shall not require a pre-activity survey. In areas not cleared or maintained within a two-year period, brush clearing shall not be conducted during the breeding season (March through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the on-site biological resource monitor would make sure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, fire protection or visual inspection brush clearing work would be avoided until after the nesting season or until the nest becomes inactive. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance level survey, soil in the brush clearing area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present. 21 In the event that SDG&E identifies a threatened, endangered, or species of special concern species of plant not previously identified in surveys performed for the project within the 10-foot radius for brush clearing around project facilities, SDG&E shall 1) notify the USFWS (for Endangered Species Act-listed plants) and the CDFG (for California Endangered Species Act-listed plants) in writing of that plant's location and identity, and 2) of the

TABLE D.3-4 APPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES APM No. Description nature of the project activity that may affect the plant. Notification would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS or CDFG have removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the brush clearing for fire protection purposes or visual inspection and cause a take of such plant(s), if minimization measures are not implemented. 22 No wildlife, including rattlesnakes, may be harmed except to protect life and limb. 25 Project personnel are not allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations. 27 Project supplies or equipment (e.g., foundation excavations, steel pole sections) where wildlife could hide shall be inspected prior to moving or working on them to reduce the potential for injury to wildlife. Supplies or equipment that cannot be inspected, or from which wildlife cannot escape or be removed, shall be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each workday. Supplies or excavations that have been left open shall not be covered or otherwise made secure from wildlife intrusion or entrapment until inspected and any wildlife found therein is allowed to escape. If any wildlife are found entrapped in supplies, equipment, or excavations, those supplies, equipment, or excavations shall be avoided and the wildlife left to leave on their own accord, except as otherwise authorized by the USFWS and CDFG. Where project construction activities require that supplies, equipment, or excavations proceed despite the presence of hiding or entrapped wildlife, SDG&E may request that the USFWS and CDFG allow the on-site biological resource monitor, or a recognized wildlife rescue agency (such as Project Wildlife), to remove the wildlife and transport them safely to other suitable habitats. 28 All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in the trench or excavation, the on-site biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The on-site biological resource monitor would make the required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them to safely to other suitable habitats. 29 SDG&E, its contractors, subcontractors and their respective project personnel shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste or questions about environmental impacts, to the on-site biological construction monitors. Experts in wildlife handling (such as Project Wildlife) may need to be brought in by the project biological construction field monitor for assistance with wildlife relocations. 30 Emergency repairs may be required during the construction and maintenance of the project to address situations (e.g., downed lines, slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs, the APM shall be followed to the fullest extent practicable. Once the emergency has been abated, any unavoidable environmental damage would be reported to the project biological construction monitor, who would promptly submit a written report of such impacts to the USFWS and CDFG and any other government agencies having jurisdiction over the emergency actions. If required by the government agencies, the biological construction monitor would develop a reasonable and feasible mitigation plan consistent with the APM and any permits previously issued for the project by the governmental agencies. 31 When critical habitat exists on either side of the project's existing ROW, SDG&E would not oppose dedication by the fee owner of the underlying property for conservation purposes provided that it shall acknowledge and except them from SDG&E's continued use of The property in a manner sufficient to reliably install, operate, maintain, and repair its existing and necessary public utility facilities within the ROW.

	TABLE D.3-4
Al	PPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES
APM No.	Description
34	In areas where soils and vegetation are particularly sensitive to disturbance (as defined in this PEA), existing access roads would be repaired only in areas where they are otherwise impassable or unsafe.
35	To minimize ground disturbance impacts to streams in steep canyon areas, access roads in these areas would avoid streambed crossings to the extent feasible. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB.
36	Environmentally sensitive tree trimming locations for the project would be identified in SDG&E's existing vegetation management tree trim database utilized by tree trim contractors. The biological field construction monitor shall be contacted prior to trimming in environmentally sensitive areas. Whenever feasible, trees in environmentally sensitive areas, such as areas of riparian or native scrub vegetation, would be scheduled for trimming during non-sensitive (i.e., outside of breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, SDG&E would perform three site surveys to determine presence or absence of endangered nesting bird species in riparian or native scrub vegetation. Endangered nesting bird species for which surveys would be performed include the least Bell's vireo, coastal California gnatcatcher, Southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Cooper's hawk, and golden eagle. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts prior to tree trimming in environmentally sensitive areas. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APM 43. Where riparian areas with overstory vegetation are crossed, tree removal (i.e., clear-cut) widths would be varied where feasible to minimize visual landscape contrast and to maintain habitat diversity at established wildlife corridor edges. Where tree removal options that could reasonably maintain edge diversity.
37	All new access roads constructed as part of the project that are not required as permanent access for future project maintenance and operation would be permanently closed. Where required, roads would be permanently closed using the most effective feasible and least environmentally damaging methods appropriate to that area with the concurrence of the underlying landowner and the governmental agency having jurisdiction (e.g., stock piling and replacing topsoil or rock replacement). This would limit new or improved accessibility into the area. Mowing of vegetation can be an effective method for protecting the vegetative understory while at the same time creating access to the work area. Mowing should be used when permanent access is not required since, with time, total revegetation is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing would be necessary to maintain permanent access. The project biological construction monitor shall conduct checks on mowing procedures to ensure that mowing for temporary or permanent access roads is limited to a 12-foot-wide area on straight portions of the road (slightly wider on turns) and that the mowing height is no less than 4 inches from finished grade.
38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into waterbodies.
39	To the extent feasible, where the construction of access roads would disturb sensitive features, the route of the access road would be adjusted to avoid such impacts. Examples of sensitive features include, without limitation, cultural sites, identified habitats of endangered species, and streambeds. As another alternative, construction and maintenance traffic would use existing roads or cross-country access routes (including the ROW), which avoid

TABLE D.3-4 APPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES APM No. Description impacts to the sensitive feature. To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers, such as easily visible flagging. Construction routes, or other means of avoidance, must be approved by the authorized officer or landowner before use. When it is not feasible to avoid constructing access roads in sensitive habitats, SDG&E would perform three site pre-activity surveys to determine the presence or absence of endangered or threatened species, or species of special concern, in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable and feasible mitigation measures for potential impacts prior to access road construction. However, these pre-activity surveys would not replace the need for SDG&E to perform detailed onthe-ground surveys as required by APMs 20, 21 42, 43, and 44. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles. SDG&E would limit roads constructed parallel to streambeds, to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible to avoid cultural sites, SDG&E would consult with the appropriate federal and State Historic Preservation Officer (SHPO) and local (indigenous Native American tribes) cultural resource agencies and specialists to either develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as removal and cataloging and/or removal and relocation. To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any 40 new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads. 41 In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high- value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see APM 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high-value wildlife habitats, SDG&E would perform three site surveys to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to

streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate

	TABLE D.3-4
Al	PPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES
APM No.	Description
	federal, state SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either modify the project or develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as data recovery studies, cultural resource removal and cataloging, and/or cultural resource removal and relocation.
42	Conduct detailed on-the-ground surveys (focused or protocol surveys), as required by the applicable government environmental resource agencies, to determine whether the Quino checkerspot butterfly and arroyo southwestern toad habitat are present within the project's route. If these species habitats are determined to be potentially affected by project activities, specific alternative strategies to avoid such habitat and, where avoidance of such impacts is unavoidable, specific mitigation measures would be determined through consultation, in accordance with SDG&E's NCCP, with the USFWS and CDFG. If it is determined that it is not feasible to avoid such habitat impacts, the project biologist would recommend mitigation in consultation with applicable resource agencies. In those situations where more than one site visit may be necessary to identify a given species, no more than three site visits shall be required. It is expected that the typical USFWS search AMP would not be utilized in most situations due to the priority of these APMs to avoid where feasible.
43	Conduct surveys as required by the applicable government environmental resource agencies to determine whether least Bell's vireo, coastal California gnatcatcher, Southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Belding's savannah sparrow, California least tern, western snowy plover, light-footed clapper rail, Cooper's hawk, and golden eagle are present within the project route. If these species are present and unavoidable impacts to suitable habitat would occur, SDG&E would, to the extent feasible, cause such impacts to suitable habitat to occur during the non-breeding season for each species. Specific alternative mitigation measures (e.g., off-site restoration or enhancement of these species' habitats) would be determined through consultation, in accordance with SDG&E's NCCP, with the USFWS and CDFG. If it is determined that it is not feasible to avoid habitats during the breeding season, the project biologist would recommend alternative mitigation approaches to SDG&E, and a decision on how to proceed would be made in consultation with the applicable resource agencies. In those situations where more than one site visit may be necessary to identify a given species or its habitat, such as certain birds, no more than three site visits shall be required. It is expected that the typical USFWS search protocols would not be utilized in most situations due to the priority of these protocols to avoid where feasible.
44	Conduct surveys as required by the applicable government environmental resource agencies to determine whether vernal pools containing San Diego fairy shrimp are present within the project route. If vernal pools and/or San Diego fairy shrimp are determined to be potentially affected by project activities, specific avoidance strategies and mitigation measures would be identified through consultation, in accordance with SDG&E's NCCP, with the USFWS, CDFG, and Corps (if necessary). Project facilities and activities shall be planned to avoid disturbance to vernal pools, their watersheds, or impacts to their natural regeneration. Continued maintenance of the project's facilities, utilizing existing access roads and access routes constructed as a part of the project, are allowed to continue in areas containing vernal pool habitats. Construction and maintenance of the project's facilities, which span vernal pool habitats, is allowed as long as the placement of the facilities or location of associated construction activities in no way impacts vernal pools.
50	Where necessary to avoid significant protected environmental land use impacts, limit potential visual impacts and reduce the footprint of structures, use steel pole support structures in place of steel lattice tower structures.
51	To minimize perching opportunities for raptors near habitats supporting sensitive prey species, select structures incorporating a design to discourage raptor perching.
52	To the extent feasible, design structure locations to avoid wetlands, streams, and riparian areas. These sensitive water resource features include riparian areas, habitats of endangered species, streambeds, cultural resources, and wetlands. If these areas cannot be avoided, a qualified biological contractor shall conduct site-specific

A	TABLE D.3-4 PPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES
APM No.	Description
	assessments for each affected site. These assessments shall be conducted in accordance with Corps wetland delineation guidelines, as well as CDFG streambed and lake assessment guidelines, and shall include impact minimization measures to reduce wetland impacts to a less than significant effect (e.g., creation and restoration of wetlands). Though construction or maintenance vehicle access through shallow creeks or streams is allowed, staging/storage areas for equipment and materials shall be located outside of riparian areas. Construction of new access through streambeds that require filling for access purposes would require a Streambed Alteration Agreement from the CDFG and/or consultation with the Corps. Where filling is required for new access, the installation of properly sized culverts and the use of geotextile matting should be considered in the CDFG/Corps consultation process.
53	Known and potential cultural and biological resources, which may be affected by the project, would be monitored during project implementation. This would involve pedestrian surveys (i.e., Class III) to inventory and evaluate these resources along the selected route and any impacted area (e.g., access roads, substation sites, staging areas, etc.) beyond the ROW. In consultation with appropriate land managing agencies, SHPO officers, and applicable resource agencies, specific avoidance strategies and mitigation measures would be developed and implemented to avoid or mitigate identified adverse impacts on private, state, Bureau of Land Management, tribal, or other lands. The primary goal is to avoid impacts to environmental resources, and secondarily to mitigate for unavoidable impacts. These may include project modifications to avoid adverse impacts, monitoring construction activities, or data recovery studies.
54	In addition to the restoration and habitat enhancement, mitigation measures developed during the consultation period under Section 7.
55	<i>Erosion Control and Sediment Transport Control Plan</i> would be included with the project grading plans submitted to San Diego County for review and comment. The sediment transport control plan would be prepared in accordance with the standards provided in the <i>Manual of Erosion and Sedimentation Control Measures</i> and consistent with practices recommended by the Resource Conservation District of San Diego County. Implementation of the plan would help stabilize soil in graded areas and waterways and reduce erosion and sedimentation. The plan would designate BMPs that would be implemented during construction activities. Erosion control efforts, such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and retention/settlement ponds, would be installed before extensive soil clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds and grading plans would be submitted to the CDFG and Corps for review in the event of construction near waterways.
65	In disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils would be decompacted as necessary prior to seeding and reclamation would occur to enhance revegetation and reduce potential for erosion.

SDG&E NCCP

As described above, the SDG&E NCCP authorizes take of 110 species (covered species) resulting from impacts from SDG&E's ongoing installation, use, maintenance, and repair operations and expansion to those systems. It is anticipated that some of SDG&E's activities will result in the take of covered species and impact their habitat when incidental to otherwise lawful activities. This is provided for by the NCCP and the Implementing Agreement for the NCCP. The NCCP is intended to avoid take whenever possible and to implement measures to minimize and mitigate any take of covered species and their habitat to the maximum extent possible. The NCCP estimates and defines the mitigation which may be required for the biological impacts resulting from these activities including the following measures:

- Avoidance of impacts whenever possible, accomplished by defining and using 61 operational protocols (*see Appendix 3* of this EIR) for working in the field. These operational protocols provide guidance on behavior and activities representing an environmentally sensitive approach to construction, maintenance, and repair. The appropriate operational protocols will be determined and implemented for this project by SDG&E. These operational protocols are in addition to the APMs listed in *Table D.3-4*;
- Allowing fee-owned rights-of-way to be used as wildlife corridors in order to connect the region's conservation areas;
- Provisions of 240 acres of mitigation credits for unavoidable impacts which will be debited to mitigate for actual impacts as projects are realized, and;
- Restoration and enhancement of habitat that has been impacted may be used instead of debits to the mitigation credits, and, at other times, in addition to the debits.

Thus, for the Proposed Project, where it is concluded that take of covered species or their habitat may occur or there is a potential for an impact to occur, the NCCP provides for avoidance, minimization, and mitigation. The impact is concluded to be not significant and no additional mitigation is required subject to compliance with the terms and agreements of the Implementing agreement. The take of certain species, defined as narrow endemic species, is to be avoided. Narrow endemic species include a number of plant and animal species that have limited distribution and nearly all of the historic and/or current populations occur within San Diego County. These species tend to be highly restricted in their distribution due to their habitat affinities, soil conditions, or other ecological factors. Take of these narrow endemics, although they are considered covered species under the NCCP, is to be avoided without first conferring with the USFWS and CDFG. Depending on the impact, additional mitigation may be required for impacts to these species in order to conclude that impacts are less than significant.

D.3.3.3 230 kV Overhead Transmission Line

The Proposed Project could result in temporary disturbance and/or permanent loss to sensitive vegetation communities, rare plant communities, and sensitive plant and animal species. Temporary disturbance includes short-term impacts during construction of new pole structures and removal of existing towers, construction of new access roads and improvements to existing access roads, and work at conductor tensioning/splicing and staging/laydown areas. Permanent loss involves long-term impacts associated with permanent project features (e.g., new transmission towers) that would remain throughout the life of the project. Examples of activities that would result in temporary impacts to sensitive vegetation communities include:

- Installation of new 230 kV overhead transmission line and a new 230 kV underground cable, replacing existing lines with higher voltage lines and replacing existing lines with new lines with the same voltage, removal of existing transmission structures, replacing existing transmission structures, installation of one new overhead to underground transition station, and modifications at three existing substations.
- Construction of staging and laydown areas.
- Construction of access roads which are assumed to be 15-feet in width for both curves and straight segments to allow for grading that may be required.

Each of these activities would cause the removal of existing vegetation and disturbance of surface soils. In addition, permanent loss of habitat would occur where new tower or pole foundations are installed. Surface disturbance could occur during construction, operation, and maintenance of the Proposed Project especially when vehicles are driven over existing vegetation that has not been intentionally and regularly cleared to maintain utility access roads or firebreaks. Impacts would be related to the following activities:

- Movement of equipment and project personnel for monthly or annual project maintenance.
- Movement of equipment and project personnel during line-stringing/cable pulling where ground clearance is not required.

Each of these activities could cause temporary damage to existing vegetation, but would not likely involve removal or substantial disruption of surface soils. The most common type of surface disturbance is associated with rubber-tired or steel-tracked vehicles used to string/pull the line and transport personnel and materials along the project ROW. Potential impacts to plant communities could also be caused by the movement of construction/maintenance vehicles and equipment within the transmission line ROW. Impacts could include soil compaction and crushing of vegetation. Not all plant communities are equally sensitive to surface disturbance, not all of these impacts would occur in every plant community, and such disturbance would be

limited to areas where other existing surface roads are not available. The project's impacts were quantified by overlaying the limits of project construction on the biological resources map of the site.

Impact B-1: Temporary and Permanent Loss of Sensitive Vegetation Communities

Temporary impacts would occur during the construction phase of the Proposed Project. Permanent impacts would occur during project operations that require permanent changes in the existing biological resources. *Tables D.3-5 and D.3-6* summarize the temporary and permanent impacts to each vegetation community. Sensitive vegetation communities that would be impacted include temporary impacts to coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chaparral, southern mixed chaparral, baccharis scrub, non-native grassland, drainage, coastal salt marsh, disturbed coastal salt marsh, mud flats, and open water, and permanent impacts to coastal sage scrub, disturbed coastal sage scrub/chaparral, southern mixed chaparral, and non-native grassland. Impacts to these vegetation communities are further described below by project segment.

Sycamore Canyon Substation to Fanita Junction

Ground disturbance within the Sycamore Canyon Substation to Fanita Junction segment involves replacement of approximately nine 138 kV two-pole wood structures, reconductoring of an existing 138 kV transmission line, replacement of two existing lattice towers with two tubular steel poles at Fanita Junction, installation of three new wood poles at Fanita Junction, and preparation of access roads and staging areas. Development of these proposed facilities would result in impacts to coastal sage scrub, coastal sage scrub/chaparral, and southern mixed chaparral vegetation communities. A total of 0.19 acre of permanent and 9.57 acres of temporary impacts are anticipated to occur to these sensitive vegetation communities.

Miguel Substation to South Bay Power Plant Area

Ground disturbance activities between the Miguel Substation to South Bay Power Plant segment includes installation of 63 new tubular steel poles within SDG&E's existing ROW, realignment of approximately 3,000 feet of an existing 13 kV wood pole structure line, preparation of access roads and staging areas, and grading for 4.5 acres of additional permanent access roads. Development of these proposed facilities would result in impacts to coastal sage scrub, disturbed coastal sage scrub, and non-native grassland vegetation communities. A total of 2.21 acres of permanent and 9.44 acres of temporary impacts are anticipated to these sensitive vegetation communities.

TABLE D.3-5 PERMANENT IMPACTS TO VEGETATION COMMUNITIES FOR THE PROPOSED OVERHEAD AND UNDERGROUND PROJECT SEGMENTS

Vegetation Community	Sycamore to Fanita Impacts (Ac)	Miguel to South Bay Impacts (Ac)	South Bay to Sweetwater River Impacts (Ac)	Sweetwater River to Sicard Street Impacts (Ac)	Total Impacts (Ac)
Coastal Sage Scrub and Subtypes			1 (10)	()	
Coastal sage scrub	0.06	1.08			1.14
Disturbed coastal sage scrub		0.44			0.44
Coastal sage scrub/ chaparral	0.06				0.06
Baccharis scrub					
Chaparral Communities				<u> </u>	
So. Mixed chaparral	0.07				0.07
Grasslands			1		
Non-native grassland		0.69			0.69
Riparian Vegetation			1		
So. willow scrub					
Disturbed so. willow scrub					
Mule fat scrub					
Drainages					
Wetlands and Marshes			1		
So. coastal salt marsh					
Disturbed so. coastal salt marsh					
Mud flats					
Open water (Sweetwater River Channel)					
Disturbed/Developed		I			
Disturbed	0.2	2.76			2.96
Developed		1.59	0.26	0.21	2.06
Eucalyptus woodland					
Total	0.39	6.56	0.26	0.21	7.42

Source: Essex, 2004 as modified by brief field visits by Dudek; permanent impacts within the Sicard to Old Town Segments are anticipated to occur only to developed lands and are not included in this table

TABLE D.3-6 TEMPORARY IMPACTS TO VEGETATION COMMUNITIES FOR THE PROPOSED OVERHEAD AND UNDERGROUND PROJECT SEGMENTS

Vegetation Community	Sycamore to Fanita Impacts (Ac)	Miguel to South Bay Impacts (Ac)	South Bay to Sweetwater River Impacts (Ac)	Sweetwater River to Sicard Street Impacts (Ac)	Total Impacts (Ac)
Coastal Sage Scrub and Subtypes	<u>_</u>		1 (- /	<u>_</u>	
Coastal sage scrub	3.73	5.68	0.35		9.76
Disturbed coastal sage scrub		3.21	0.37		3.58
Coastal sage scrub/ chaparral	0.27				0.27
Baccharis scrub			1.86	1.76	3.62
Chaparral Communities				<u> </u>	
So. Mixed chaparral	5.57				5.57
Grasslands		<u> </u>	<u> </u>		
Non-native grassland		0.55			0.55
Riparian Vegetation				<u> </u>	
So. willow scrub					
Disturbed so. willow scrub					
Mule fat scrub					
Drainages			0.27		0.27
Wetlands and Marshes				<u> </u>	
So. coastal salt marsh			0.76	0.02	0.78
Disturbed so. coastal salt marsh				0.38	0.38
Mud flats			0.35		0.35
Open water (Sweetwater River Channel)				0.03	0.03
Disturbed/Developed		<u> </u>	<u> </u>	II	
Disturbed	2.62	29.81	3.33	0.17	35.93
Developed		11.86	16.84	17.72	46.42
Eucalyptus woodland					
Total	12.19	51.11	24.13	20.08	107.51

Source: Essex, 2004 as modified by brief field visits by Dudek; temporary impacts within the Sicard to Old Town Segments are anticipated to occur only to developed lands and are not included in this table.

Sweetwater River Transition Area to Sicard Street Transition Area Segment

Construction activities requiring ground disturbance between the Sweetwater River Transition Area to Sicard Street Transition Area include reconductoring of an existing 138kV twinned line on the west side of existing lattice tower bridge structures. Development of these proposed facilities would result in temporary impacts to baccharis scrub, southern coastal salt marsh, disturbed southern coastal salt marsh, and the open water of the Sweetwater River channel. A total of 2.19 acres of temporary impacts are anticipated to these sensitive vegetation communities.

As described in APMs 1, 2, 3, 4, 11, 39, 41, and 52, the project includes measures to reduce impacts to sensitive vegetation including: restrict vehicles to existing roads, minimize impacts by defining the disturbance areas, design the project to avoid or minimize new disturbance and erosion, leave vegetation in place where recontouring is not required, build access roads at right angles to drainages, adjust routes of access roads to avoid sensitive habitats including wetlands and riparian areas. In addition to the project APMs, implementation of Mitigation Measure B-1a would ensure that impacts to sensitive vegetation communities (Impact B-1) would be mitigated to less than significant (Class II).

Mitigation Measures for Impact B-1, Temporary and Permanent Loss of Sensitive Vegetation Communities – Sycamore Canyon Substation to Sicard Street Transition Area

B-1a Where impacts to drainages, open water, coastal sage scrub, disturbed coastal sage scrub, baccharis scrub, coastal salt marsh, disturbed coastal salt marsh, and mud flat cannot be avoided, SDG&E shall either restore temporarily disturbed areas to pre-construction conditions following construction or deduct from the SDG&E Mitigation Credits, as stated in the SDG&E NCCP. Where onsite restoration is planned for mitigation of temporary impacts to sensitive vegetation communities, the Applicant shall identify a Habitat Restoration Specialist to be approved by the CPUC to determine the most appropriate method of restoration. Restoration techniques can include: hydroseeding, handseeding, imprinting, and soil and plant salvage, as discussed in Section 7.2.1 of the NCCP. Monitoring would include visual inspection of restored areas after one year. A second application may be made. If, after the second year, restoration is deemed unsuccessful, the USFWS and CDFG, in cooperation with SDG&E, shall determine whether the remaining loss shall be mitigated through a deduction from the SDG&E Mitigation Credits, or a third application would better achieve the intended purpose. The mitigation objective for impacted sensitive vegetation communities shall be restoration to pre-construction conditions as measured by species cover, species diversity, and exotic species cover. The cover of native species should increase while the cover of non-native

or invasive species should decrease. Success criteria shall be established by comparison with reference sites. If, however, roots are not grubbed during temporary impacts, restoration/hydroseeding may not be necessary. This applies to impacts greater than 500 square feet, and only where grubbing occurred. For all temporary impacts greater than 500 square feet, acreage not meeting success criteria shall be deducted from SDG&E's mitigation credits at a 1:1 ratio. Impacts to jurisdiction wetlands may require permits from the wetland permitting resource agencies and coordination with these agencies is required in accordance with APMs 11, 52, and 55. Wetland areas that may require permits from the resource agencies for temporary impacts include drainage, open water, coastal salt marsh, disturbed coastal salt marsh, and mud flat. The need to obtain permits will be determined by the resource agencies.

Impact B-2: Impacts to Sensitive Plant Species

A number of sensitive plant species have been documented by direct observation, or are recorded in the literature as noted in Table D.3-2 and shown in *Figure D.3-2, Biological Resources Map 1 through Map 5b.* A number of sensitive plant species also have the potential to occur within the project alignment and these species are noted in *Table D.3-2.* The potential to impact sensitive plant species is discussed below for each segment of the Proposed Project.

Sycamore Canyon Substation to Fanita Junction

Two species are known to occur within the Sycamore Canyon to Fanita Junction project segment: San Diego barrel cactus and willowy monardella. Sensitive plant species with a moderate to high potential to occur within this segment, according to the database analysis, include: San Diego thornmint, California adolphia, San Diego ambrosia, Orcutt's brodiaea, variegated dudleya, slender-pod jewelflower, Palmer's grapplinghook, San Diego goldenstar, and Nuttall's scrub oak.

In general, the implementation of APMs 17, 21, 39, and 53 provide for avoidance of sensitive plant species. In addition, the operational protocols of the SDG&E NCCP, especially number 13 (see *Appendix 3* to this EIR), will provide avoidance of sensitive plant species and therefore, impacts to San Diego thornmint, Orcutt's brodiaea, variegated dudleya, slender-pod jewelflower, Palmer's grapplinghook, and San Diego goldenstar, species which are covered by SDG&E's NCCP, are considered less than significant (Class III) and therefore, no further mitigation is required. For the species not covered by the SDG&E NCCP, California adolphia and Nuttall's scrub, due to the low occurrence of these species, low sensitivity status of the species, and few number that would be potentially impacted by project activities, the impacts would be considered less than significant (Class III).

San Diego barrel cactus has been observed within or near the ROW of the Proposed Project. This species has a moderate likelihood of being impacted by the Proposed Project. In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to San Diego barrel cactus would be mitigated to less than significant (Class II).

Willowy monardella is documented within the CNDDB as a major population within the canyons adjacent to and crossing the project ROW and has a potential of being impacted by the Proposed Project. Surveys for this plant species were conducted in 2004. Although these surveys were negative, an area (Sycamore to Fanita) where the species has been known to occur could not be accessed due to rain. The plant is assumed to be present in this area. In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to willowy monardella would be mitigated to less than significant (Class II).

San Diego ambrosia is present within one mile of the Proposed Project according to the CNDDB database and has a moderate potential of being impacted by the Proposed Project. Surveys conducted in 2004 were negative for this species (Essex 2005). In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to San Diego barrel cactus would be mitigated to less than significant (Class II).

Mitigation Measure for Impact B-2, Impacts to Sensitive Plants

A qualified biologist shall conduct focused surveys for San Diego barrel cactus, willowy B-2a monardella, San Diego ambrosia, Otay tarplant, snake cholla, Mexican flannelbush, Nuttall's lotus, and saltmarsh bird's beak in the spring of 2005, prior to the start of construction. These surveys are in addition to the surveys conducted in 2004 (Essex 2005) and consist of the pre-activity survey. All of the above sensitive plant locations shall be recorded using a global positioning system (GPS) and flagged during surveys for impact avoidance during project construction. All of the above sensitive plants that are delineated shall be avoided to the maximum extent possible by any temporary or permanent soil disturbing project activities such as driving, staging, or deposition of auger spoils. If avoidance is not feasible, the alternative construction methodology of using a helicopter may be required. This methodology is specifically identified per the SDG&E NCCP as being appropriate for impact avoidance in marsh habitat areas. Translocation may or may not be a viable alternative and would need to be coordinated with and approved by the resource agencies. Where avoidance is not feasible, the Applicant shall coordinate with the USFWS and CDFG regarding potential

restoration/compensation measures which may include translocation, restoration, or seasonal restrictions.

A qualified biologist approved by the CPUC prior to the start of construction shall monitor project activities for all work conducted at or around locations that are found to have sensitive plants to ensure impact avoidance and/or mitigation compliance.

Miguel Substation to South Bay Power Plant Area

Two species are known to occur within this segment of the Proposed Project: San Diego barrel cactus and Otay tarplant, both of which are covered species of the SDG&E NCCP. Based on the mapping of the locations of San Diego barrel cactus, it appears likely that impacts will occur to two or three locations of the species. In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to San Diego barrel cactus would be mitigated to less than significant (Class II).

Based on the designation of an area near mile-post 29 as an Otay tarplant preserve and the knowledge that Otay tarplant is present in many areas surrounding the Miguel Substation, it is anticipated that impacts from approximately two poles, two access roads, and a pull/snub site may impact this species both permanently and temporarily. In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to Otay tarplant would be mitigated to less than significant (Class II).

Sensitive plant species with a moderate to high potential to occur within this segment include: San Diego ambrosia, Orcutt's birds beak, Gander's pitcher sage, felt-leaved monardella, San Diego goldenbush, snake cholla, San Miguel savory, and Parry's tetracoccus. Surveys conducted in 2004 for San Diego ambrosia and snake cholla, narrow endemic species, were negative (Essex 2005). In general, the implementation of APMs 17, 21 and 53 provide for avoidance of sensitive plant species. In addition, the operational protocols of the SDG&E NCCP, especially number 13 (*Appendix 3*), will provide avoidance of sensitive plant species and therefore, impacts to Orcutt's birds beak, Gander's pitcher sage, felt-leaved monardella, San Diego goldenbush, San Miguel savory, and Parry's tetracoccus which are covered by SDG&E's NCCP, are considered to be less than significant requiring no further mitigation (Class III). Snake cholla is known to occur within the patches of coastal sage scrub and southern succulent scrub within the Chula Vista area. Although this species has not been documented as present within the project ROW, it is known for the area and suitable habitat is present. In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to snake cholla would be mitigated to less than significant (Class II).

Species not covered by the SDG&E NCCP with a moderate to high potential to occur within this segment include: California adolphia, San Diego bur-sage, Dean's milk-vetch, South Coast saltscale, golden spined cereus, Mexican flannelbush, decumbent goldenbush, San Diego marshelder, Robinson's peppergrass, Otay Mountain lotus, Nuttall's scrub oak, Munz's sage, rayless ragwort, and purple stemodia. Of these species, Mexican flannelbush is listed as endangered by the USFWS. For the species not covered by the SDG&E NCCP, except for Mexican flannelbush, due to the low occurrence of these species, low sensitivity status of the species, and few number that would be potentially impacted by project activities, the impacts would be considered adverse, but less than significant and would not require mitigation (Class III).

Mexican flannelbush is known to occur within areas that are on soils mapped as gabbroic, metavolcanic, or serpentinite soil types. These soils occur within the northern most area of the Miguel to South Bay segment within mile-posts 28 and 29. Although this species has not been documented as present within the project ROW, it is known for the area and suitable soils are present. In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to Mexican flannelbush would be mitigated to less than significant (Class II).

Sweetwater River Transition Area to Sicard Street Transition Area

SDG&E NCCP Covered sensitive plant species with a moderate to high potential to occur within this segment include: San Diego ambrosia, saltmarsh bird's beak, Nuttall's lotus, and snake cholla. Surveys conducted in 2004 for San Diego ambrosia, salt marsh bird's beak, and snake cholla, narrow endemic species, were negative (Essex 2005). In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to these species would be mitigated to less than significant (Class II).

Species not covered by the SDG&E NCCP with a moderate to high potential to occur within this segment include: Palmer's frankenia, Coulter's goldfields, estuary seablite, Decumbent goldenbush and prostrate navarretia. For the species not covered by the SDG&E NCCP, due to the low occurrence of these species, low sensitivity status of the species, and few number that would be potentially impacted by project activities, the impacts would be considered adverse, but less than significant and would not require mitigation (Class III).

Impact B-3: Impacts to Sensitive Animal Species

A number of sensitive wildlife species have been documented within the project study area as noted in *Table D.3-2* and shown in *Figure D.3-2*, *Biological Resources Map 1 through Map 5*. A number of sensitive wildlife species also have the potential to occur within the project alignment based on the habitat and location of the project as noted in *Table D.3-2*. The potential to impact these sensitive wildlife species is discussed below for each segment of the Proposed Project.

Sycamore Canyon Substation to Fanita Junction

Five species are known to occur within this segment of the ROW of the Proposed Project: orange-throated whiptail, San Diego horned lizard, Coronado skink, California gnatcatcher, and loggerhead shrike. Nesting raptors are also documented to use the transmission line structures. All of these species except for the loggerhead shrike and nesting raptors are covered species of the SDG&E NCCP. Impacts to the orange-throated whiptail, San Diego horned lizard, Coronado skink, species covered by the SDG&E NCCP, are considered less than significant due to their lower sensitivity and small area of suitable habitat that would be affected (Class III). Although the loggerhead shrike is not covered by the SDG&E NCCP, no impacts are anticipated to occur to this species because nesting would not be disturbed and little suitable habitat would be affected. Impacts to the coastal California gnatcatcher could occur if an active nest is present within coastal sage scrub that is crushed or graded during construction. Approximately 12.89 acres of suitable coastal California gnatcatcher habitat would be temporarily impacted and 1.64 acres would be permanently impacted. In addition to APMs 1, 2, 21, 36, 39, 41, 42, 43, 44 and 53, as well as operational protocols of SDG&E's NCCP (Appendix 3), implementation of Mitigation Measures B-3a and B-3b would ensure that impacts to the California gnatcatcher would be mitigated to less than significant (Class II).

Mitigation Measure for Impact B-3, Impacts to Sensitive Wildlife

B-3a General Measures

• A qualified biologist, approved by the CPUC prior to the start of construction, shall monitor project activities for all work conducted at or around locations that are found to have narrow endemic wildlife species or their habitat to ensure impact avoidance and/or mitigation compliance. These locations will be determined through surveys required under the APMs.

• Consultation with USFWS and CDFG is required prior to undertaking any activity that would impact a narrow endemic species in order to agree on specific suitable actions. Such actions may include seasonal restrictions or relocation.

B-3b California gnatcatcher

- All grading or brushing taking place within coastal sage scrub, disturbed coastal sage scrub, or chaparral/coastal sage scrub, habitats of the coastal California gnatcatcher (as identified in the EIR and through surveys required under the APMs which include focused surveys for the California gnatcatcher) shall be conducted from September through February, which is outside the coastal California gnatcatcher breeding season.
- When conducting all other project activities during the coastal California gnatcatcher breeding season of March through August, within habitat in which coastal California gnatcatchers are known to or have a high potential to occur (as identified in the EIR and through surveys required under the APMs which include focused surveys for the California gnatcatcher), the following avoidance measures shall apply:
 - (a) A qualified biologist approved by the CPUC, shall survey for coastal California gnatcatchers within one week prior to initiating project activities in an area. If coastal California gnatcatchers are present, but not nesting, a qualified biologist shall survey for nesting coastal California gnatcatchers approximately once per week in the vicinity of project activities, for the duration of the activity in that area. If an active coastal California gnatcatcher nest is located in the vicinity of project activities, a biologist qualified for coastal California gnatcatcher nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest.
 - (b) If the coastal California gnatcatcher nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting coastal California gnatcatchers and the project activities, and working in other areas until the young have fledged.

SDG&E NCCP covered sensitive wildlife species with a potential to occur based on whether suitable habitat is present within this segment include: northern red-diamond rattlesnake, Cooper's hawk, southern California rufous-crowned sparrow, golden eagle, San Diego cactus wren, northern harrier, western bluebird, Dulzura California pocket mouse, pallid San Diego

pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, mule deer, and southern grasshopper mouse. Of these species, the San Diego cactus wren is considered a narrow endemic under SDG&E's NCCP. Surveys conducted in 2004 for this species were negative (Essex 2005). In addition to APMs 1, 2, 21,36, 39, 41, 42, 43, 44 and 53, as well as operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measures B-3a and B-3c would ensure that impacts to the San Diego cactus wren would be mitigated to less than significant (Class II). All of the rest of these species are species covered by SDG&E's NCCP and thus, impacts to these species are considered less than significant requiring no further mitigation (Class III).

B-3c San Diego cactus wren

- All grading or brushing taking place within cactus patches habitat for the San Diego cactus wren (as identified in the EIR and through surveys required under the APMs, which include focused surveys for the San Diego cactus wren), shall be conducted from September through February, which is outside the San Diego cactus wren breeding season. Grading, brushing, and any other project activity shall avoid impacting large cactus patches that provide suitable nesting habitat for the San Diego cactus wren.
- When conducting project activities during the San Diego cactus wren breeding season of March through August within potential habitat, the following avoidance measures shall apply:
 - (a) A qualified biologist approved by the CPUC, shall survey for San Diego cactus wren within one week prior to initiating project activities in an area. If San Diego cactus wrens are present but not nesting, a qualified biologist shall survey for nesting San Diego cactus wrens once per week in the vicinity of project activities, for the duration of the activity in that area. If an active San Diego cactus wren nest is located in the vicinity of project activities, a biologist qualified for San Diego cactus wren nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest, or the fledglings become independent of their nest.
 - (b) If the San Diego cactus wren nest monitor determines that project activities are disturbing or disrupting the nesting activities of an active nest, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting San Diego cactus wren and the project activities, and working in other areas until the young have fledged.

Wildlife species not covered by the SDG&E NCCP that may occur within the project area include coastal western whiptail, Bell's sage sparrow, white-tailed kite, California horned lark, northwestern San Diego pocket mouse, and Hermes copper. For the species not covered by the SDG&E NCCP, due to the low occurrence of these species, low sensitivity status of the species, and low potential for the project to impact the species or its habitat, the impacts would be considered adverse, but less than significant and would not require mitigation (Class III).

Many raptor species utilize the existing double wood pole transmission line structures as nesting and perching locations during the raptor breeding season of January through June. Impacts to an active nest of any raptor species would be considered potentially significant. Implementation of Mitigation Measure B-3d would mitigate this impact to less than significant levels (Class II).

B-3d Raptors

- Prior to construction, SDG&E shall remove all existing raptor nests from structures that would be affected by project construction.
- Removal of nests shall occur outside the raptor breeding season (January to July).
- If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist, approved by the CPUC prior to the start of construction, shall survey the nest prior to removal to determine if the nest is active. If the nest is inactive, it shall be removed promptly. If a nest is determined to be active, the nest shall not be removed and the biologist shall monitor the nest to ensure nesting activities/breeding activities are not disrupted. If the biological monitor determines that project activities are disturbing or disrupting nesting activities, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity of the nest similar to those listed above under Mitigation Measure B-3c(b).

Miguel Substation to South Bay Power Plant Area

Three species are known to occur within the ROW of the Proposed Project: coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, all of which are covered species of the SDG&E NCCP. Nesting raptors have also been documented to be present within the ROW. Impacts and mitigation for nesting raptors and California gnatcatchers described above (Mitigation Measures B-3b and B-3d) for the Sycamore Canyon to Fanita Junction are applicable to this segment as well. Less than significant impacts are not expected to occur to the Cooper's hawk due to no loss of nesting or foraging habitat and thus no mitigation is required (Class III). Less than significant impacts are also anticipated to occur to the least Bell's vireo. Although there is suitable least Bell's vireo habitat present south of Proctor Valley Road and there is a high

potential for presence of the species in this habitat, the Proposed Project would not impact this habitat. Project activities would be conducted at least 400 feet from suitable Bell's vireo habitat, minimizing any potential noise impacts or disruption due to the project activities. Therefore, impacts to least Bell's vireo would be less than significant and would not require mitigation (Class III).

SDG&E NCCP covered sensitive wildlife species with a potential to occur based on presence of suitable habitat within this segment include: western spadefoot, orange-throated whiptail, northern red-diamond rattlesnake, coast horned lizard, southern California rufous-crowned sparrow, grasshopper sparrow, golden eagle, western burrowing owl, San Diego cactus wren, northern harrier, western bluebird, Dulzura California pocket mouse, pallid San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, mule deer, and southern grasshopper mouse. Of these species, two species, western burrowing owl and San Diego cactus wren are narrow endemic species. Surveys conducted in 2004 for these species were negative (Essex 2005). In addition to APMs 1, 2, 21, 36, 39, 41, 42, 43, 44 and 53 as well as operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measures B-3a, B-3c, and B-3e would ensure that impacts to the western burrowing owl and San Diego cactus wren would be mitigated to less than significant (Class II). Impacts to the covered species that are not narrow endemics are considered less than significant requiring no mitigation (Class III).

B-3e western burrowing owl

- All grading or brushing of areas containing nest burrows (as identified in the EIR and through surveys required under the APMs which include focused surveys for the western burrowing owl) shall be conducted from September through January, which is outside the burrowing owl breeding season. Grading, brushing, and any other project activity shall avoid impacting burrows that are potential nest burrows that may provide suitable nesting habitat for the burrowing owl.
- When conducting project activities during the western burrowing owl breeding season of February through August within potential habitat, the following avoidance measures shall apply:
 - (a) A qualified biologist approved by the CPUC, shall survey for western burrowing owl within one week prior to initiating project activities in an area. If western burrowing owls are present but not nesting, a qualified biologist shall survey for nesting western burrowing owls once per week in the vicinity of project activities, for the duration of the activity in that area. If an active western burrowing owl burrow is located in the vicinity of project activities, a biologist qualified for western burrowing owl nest monitoring shall monitor the nest daily until either

project activities are no longer in the vicinity of the nest, or the fledglings become independent of their nest.

(b) If the western burrowing owl nest monitor determines that project activities are disturbing or disrupting the nesting activities of an active nest, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting western burrowing owl and the project activities, and working in other areas until the young have fledged.

Wildlife species not covered by the SDG&E NCCP that may occur within the project area include coastal western whiptail, white-tailed kite, California horned lark, loggerhead shrike, northwestern San Diego pocket mouse, and Hermes copper. For the species not covered by the SDG&E NCCP, due to the low occurrence of these species, low sensitivity status of the species, and low potential for the project to impact the species or its habitat, the impacts would be considered adverse, but less than significant requiring no mitigation (Class III).

Sweetwater River Transition Area to Sicard Street Transition Area

Five species are known to occur within the ROW of the Proposed Project: Belding's savannah sparrow, osprey, peregrine falcon, and light-footed clapper rail. All of these species except for the osprey are covered by the SDG&E NCCP. Impacts to the osprey and peregrine falcon are not anticipated and would be less than significant, requiring no mitigation (Class III) based on the small area within which the project will occur and the large distribution of these species. In addition to APMs 17, 21 and 53, as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measures B-3a, B-3f, and B-3g would ensure that impacts to the Belding's savannah sparrow, and light-footed clapper rail would be mitigated to less than significant (Class II).

B-3f Belding's savannah sparrow

- All grading or brushing taking place within coastal salt marsh and disturbed coastal salt marsh habitats of the Belding's savannah sparrow (as identified in the EIR and through surveys required under the APMs which include focused surveys for the Belding's savannah sparrow) shall be conducted from September through February, which is outside the Belding's savannah sparrow breeding season.
- When conducting all other project activities during the Belding's savannah sparrow breeding season of March through August, within habitat in which Belding's savannah

sparrows are known to or have a high potential to occur, the following avoidance measures shall apply:

- (a) A qualified biologist approved by the CPUC, shall survey for Belding's savannah sparrows within one week prior to initiating project activities in an area. If Belding's savannah sparrows are present, but not nesting, a qualified biologist shall survey for nesting Belding's savannah sparrows approximately once per week in the vicinity of project activities, for the duration of the activity in that area. If an active Belding's savannah sparrow nest is located in the vicinity of project activities, a biologist qualified for Belding's savannah sparrow nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest.
- (b) If the Belding's savannah sparrow nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment when ever possible to reduce noise, installing a protective noise barrier between the nesting Belding's savannah sparrows and the project activities, and working in other areas until the young have fledged.

B-3g light-footed clapper rail

- All grading or brushing taking place within coastal salt marsh and disturbed coastal salt marsh habitats of the light-footed clapper rail (as identified in the EIR and through surveys required under the APMs which include focused surveys for the light-footed clapper rail), shall be conducted from September through February, which is outside the light-footed clapper rail breeding season.
- When conducting all other project activities during the light-footed clapper rail breeding season of March through August within habitat in which light-footed clapper rails are known to or have a high potential to occur, the following avoidance measures shall apply:
 - (a) A qualified biologist approved by the CPUC, shall survey for light-footed clapper rails within one week prior to initiating project activities in an area. If lightfooted clapper rails are present, but not nesting, a qualified biologist shall survey for nesting light-footed clapper rails approximately once per week in the vicinity of project activities, for the duration of the activity in that area. If an active lightfooted clapper rail nest is located in the vicinity of project activities, a biologist qualified for light-footed clapper rail nest monitoring shall monitor the nest daily

until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest.

(b) If the light-footed clapper rail nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment when ever possible to reduce noise, installing a protective noise barrier between the nesting light-footed clapper rails and the project activities, and working in other areas until the young have fledged.

SDG&E NCCP covered sensitive wildlife species with a potential to occur within this segment, based on the presence of suitable habitat include: long-billed curlew, large-billed savannah sparrow, and wandering skipper. Wandering skipper is known to occur within the patches of salt grass within this portion of the Chula Vista area. Although this species has not been documented as present within the project ROW, it is known for the area and suitable habitat is present. Of these species, the wandering skipper is a narrow endemic species. Surveys conducted in 2004 for this species were negative (Essex 2005). In addition to APMs 1, 2, 21, 36, 39, 41, 42, 43, 44, and 53 as well as operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measures B-3a and B-3h would ensure that impacts to wandering skipper would be less than significant (Class II). For the long-billed curlew and large-billed savannah sparrow, both of which are covered species, impacts are considered less than significant (Class III). Species not covered by the SDG&E NCCP with a potential to occur within this segment based on suitable habitat include: California black rail. This species is considered to be extirpated from southern California and no impacts would occur.

B-3h Wandering Skipper

- A qualified biologist approved by the CPUC, shall conduct a focused survey for wandering skipper, prior to the start of construction. All areas containing salt grass, the larval plant host, shall be recorded using a global positioning system (GPS). In addition, the boundaries of all salt grass patches shall be clearly staked and flagged during the surveys for impact avoidance during implementation of the Proposed Project.
- All patches of salt grass that are delineated shall be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging, or deposition of auger spoils. If avoidance is not feasible, the alternative construction methodology of using a helicopter may be required. This methodology is specifically identified in the SDG&E NCCP as being appropriate for impact avoidance in marsh habitat areas. Other methods of avoidance of the wandering skipper, such as seasonal

timing, may or may not be viable alternatives and would need to be coordinated with the resource agencies. Moreover, if avoidance is not feasible, the Applicant shall coordinate with the USFWS regarding potential compensation measures.

• If permanent impacts would take place to wandering skipper, the project feature resulting in the permanent impact may be relocated in order to prevent impacts. If the project feature resulting in the permanent impact to wandering skipper can not be relocated due to engineering constraints, the project biologist and USFWS and CDFG shall coordinate to determine suitable mitigation for the impacts. Any project variance resulting from such coordination efforts shall also comply with Mitigation Measure L-4a (see *Section D.7, Land Use and Recreation*).

Impact B-4: Wildlife Corridors

Project activities are not expected to significantly impact or restrict wildlife movement. Movement of most mammal and reptile species takes place at night and nighttime vehicle traffic associated with project construction activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species that may be moving about. Due to the linear, spread-out nature of the project, temporary impacts to native habitats at each structure location would be relatively small, allowing wildlife to move freely around any project equipment within the transmission corridor. Any temporary impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these impacts to wildlife corridors are considered less than significant, requiring no mitigation (Class III).

Impact B-5: Impacts by Invasive Plant Species

The project area contains several invasive species, including Russian thistle, black mustard, and fennel. Construction could result in the introduction of new invasive plants or the spread of existing invasive species into portions of the project area in which invasive species do not already occur. Unless properly maintained, disturbed areas can recolonize with invasive species that out-compete slower growing native species. The seeds of invasive species could be transported to other areas by the tires of trucks used during construction. Potentially significant impacts associated with the spread of noxious weeds would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure B-5a.

Mitigation Measure for Impact B-5, Impacts by Invasive Plant Species

B-5a SDG&E shall prevent invasion of invasive, non-native plant species into sensitive plant species habitats and vegetation types by:

- Implementation of specific protective measures during construction, approved by the CPUC, such as cleaning vehicles prior to off-road use, using weed-free imported soil, restricted vegetation removal and requiring topsoil storage.
- Development and implementation of weed management procedures approved by the CPUC, to monitor and control the spread of weed populations along the ROW.
- Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads.
- Fill material, soil amendments, gravel, etc., required for construction/restoration activities shall be obtained from a source that can certify the soil as being "weed free."
- Existing vegetation shall be cleared only from areas scheduled for immediate construction work (within 10 days) and only for the width needed for active construction activities.
- During construction, the upper 12 inches of topsoil (or less depending on existing depth of topsoil) shall be salvaged and replaced wherever the transmission line is trenched through open land (not including graded roads and road shoulders).
- Disturbed soils shall be revegetated with an appropriate seed mix that does not contain invasive, non-native plant species.

Impact B-6: Impacts Due to Bird Electrocution and Tower/Line Collisions

Raptors and other large aerial perching birds are most susceptible to electrocution because of their size, distribution, and behavior (Olendorff et al., 1981; APLIC, 1996). Because raptors and other large aerial perching birds often perch on tall structures that offer optimal views of potential prey, the design characteristics of transmission poles appear to be a major factor in raptor electrocutions (APLIC 1996). Electrocution occurs only when a bird simultaneously contacts two energized phase conductors or an energized conductor and grounded hardware. This happens most frequently when a bird attempts to perch on a transmission pole with insufficient clearance between these elements. The Proposed Project would have minimum clearances between phase conductors or between phase conductors and grounded hardware, as recommended by APLIC (1996), that are sufficient to protect even the largest birds, and therefore would present little to no risk of bird electrocution. Therefore, the potential for electrocution of birds by implementation of the Proposed Project would be considered a less than significant impact, requiring no mitigation (Class III).

Collision

Bird collisions with power lines generally occur when: (1) a power line or other aerial structure transects a daily flight path used by a concentration of birds, and (2) migrants are traveling at reduced altitudes and encounter tall structures in their path (Brown, 1993). Collision rates generally increase in low light conditions, during inclement weather, such as rain or snow, during strong winds, and during panic flushes when birds are startled by a disturbance or are fleeing from danger. Collisions are more probable near wetlands, valleys that are bisected by power lines, and within narrow passes where power lines run perpendicular to flight paths. Passerines (i.e., songbirds) and waterfowl (i.e., mallard ducks) are known to collide with wires (APLIC, 1994), particularly during nocturnal migrations or poor weather conditions (Avery et al., 1978). However, passerines and waterfowl have a lower potential for collisions than larger birds, such as raptors. Some behavioral factors contribute to a lower collision mortality rate for these birds. Passerines and waterfowl tend to fly under power lines, as opposed to larger species, which generally fly over the lines and risk colliding with the higher static lines, and many smaller birds tend to reduce their flight activity during poor weather conditions (Avery et al., 1978). It is difficult to predict the magnitude of collision-caused bird mortality without extensive information on bird species and movements in the project vicinity. These data are not available for the proposed transmission line study area. However, it is generally expected that collision mortality would be greatest where the movements of susceptible species are the greatest (e.g., near wetlands, open water-bodies, etc.), such as the Sweetwater Marsh Unit of the San Diego National Wildlife Refuge as well as several natural drainage features within the project area, including the San Diego River, the west fork of Sycamore Canyon, Sweetwater River, and an unnamed tributary to the Sweetwater River in adjacent to Proctor Valley. In addition, the placement and visibility of the line would influence collision mortality. As previously stated, the proposed 230 kV lines would be placed on existing poles and bridge structures and on new poles adjacent to existing poles. The difference in height between the proposed steel poles and the relocated towers would be less than 10 feet and therefore, would not be considered a significant impact. Therefore, the addition of the new steel tubular poles, and transmission lines would be considered a less than significant impact due to bird collisions requiring no mitigation (Class III).

Impact B-7: Indirect Impacts

Potential indirect impacts from project construction could include fugitive dust, human activity, decreased water quality (through sedimentation, urban contaminants, or fuel release, for example), construction noise, and night lighting, if it is used.

Fugitive Dust

Fugitive dust produced by construction has the potential to disperse onto vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., seed-eating rodents). Fugitive dust also may make plants unsuitable as habitat for insects and birds. These potential impacts would be minimized through project design measures (see APM 1, APM 7, and APM 11), which require that active construction areas and unpaved surfaces would be watered to minimize dust generation. Therefore, the indirect impacts of dust generation on biological resources would be less than significant, requiring no further mitigation (Class III).

Human Activity

Following the completion of construction and revegetation, the Proposed Project would only result in a negligible increase in human activity resulting from a few inspection/maintenance trips per month along existing and proposed access roads in the project area. No new trails would be created and no increase in public access to habitat would be provided. Accordingly, the indirect effects associated with human activity would be less than significant, requiring no mitigation (Class III).

Water Quality

Water quality in riparian areas could be adversely affected by surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could contaminate surface water. In addition, there is a potentially higher than normal risk of surface runoff and erosion in portions of the project area due to the October 2003 Cedar fire. The Cedar fire burned over 280,000 acres in San Diego County. Within the project area, this fire affected the vegetation within the Sycamore to Fanita Segment. Decreased water quality may adversely affect the vegetation, aquatic animals, and terrestrial wildlife that depend on these resources. These potential impacts would be minimized through project design measures and compliance with applicable permitting requirements, including APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65, as described in *Section D.6, Hydrology and Water Quality* of this EIR. As such, these impacts would have a less than significant impact on biological resources (Class III) and therefore require no further mitigation.

Construction Noise

As discussed in *Section D.8, Noise and Vibration* of this EIR, project activities will include a temporary increase in noise due to vehicles such as augers, cranes, and pick-up trucks. Breeding

birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality. However, due to the linear nature of the project, project activities, in most cases, would move frequently, so noise would not continue for lengthy time periods at any one location. In addition, noise minimization measures for activities adjacent to sensitive species such as coastal California gnatcatcher, the coastal cactus wren, western burrowing owl, Belding's savannah sparrow, and light-footed clapper rail are presented in Mitigation Measures B-3a through B-3h. Any temporary noise impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, with implementation of Mitigation Measures B-3a through B-3h, these impacts would be mitigated to less than significant (Class II).

Night Lighting

Night lighting in natural habitats can prevent nocturnal wildlife from using an area. Project construction activities would occur primarily during daylight hours, and may only continue on into evening hours under specific circumstances where ceasing project activities prior to completion would result in unsafe conditions for workers and/or the transmission lines or required to mitigate for traffic and land use impacts resulting from construction activities. Any temporary short-term and localized impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels. Implementation of Mitigation Measure B-7a would ensure that indirect impacts due to night lighting would be mitigated to less than significant (Class II).

Mitigation Measure for Impact B-7, Indirect Impacts due to Night Lighting

B-7a Reduce night lighting on sensitive habitats

Exterior lighting within the project area adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable.

Impact B-8: Impacts to Regional Plans, NCCPs, HCPs, Conservation Plans and Critical Habitat

Regional Plans or NCCPs within which the proposed project is located include the MCAS Miramar Integrated Natural Resources Management Plan, City of San Diego MSCP Subarea Plan, the County of San Diego MSCP Subarea Plan and the City of Chula Vista MSCP Subarea Plan.

MCAS Miramar Integrated Natural Resources Management Plan

The MCAS Miramar Integrated Natural Resources Management Plan (INRMP) was developed to integrate current and future land use activities at MCAS Miramar with natural resources management and conservation. The INRMP provides guidance on avoidance and minimization of impacts and mitigation measures. There are no specific policies related to siting transmission lines and substations; however, a general policy of the INRMP requires site approval by the Corps Public Works Department for all facilities related activities. These facilities include, but are not limited to, development, reconstruction, repairs, utilities, leases and easements. The Sycamore to Fanita Segment of the Proposed Project is located entirely within the boundaries of MCAS Miramar and thus is subject to the INRMP. The project is an existing facility and proposes no activities outside of the existing ROW. In accordance with the APMs of the Proposed Project and the protocols of the SDG&E NCCP, impacts to sensitive resources are avoided, minimized and mitigated to the greatest extent feasible. No impacts are anticipated to occur to the INRMP.

City of San Diego MSCP Subarea Plan

The City of San Diego MSCP Subarea Plan forms the basis for the Implementing Agreement which is the contract between the City and the wildlife agencies that ensures implementation of the plan and thereby allows the city to issue take permits at the local level. The City of San Diego Multi-Habitat Planning Area (MHPA) was developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA delineates core biological resource areas and corridors targeted for conservation and within the MHPA, limited development may occur. The Proposed Project is located within the urban area of the City of San Diego MSCP Subarea Plan. The Proposed project is generally located outside of the MHPA except where the project crosses the San Diego River.

Utilities are considered conditionally compatible with the biological objectives of the MSCP and thus are allowed within the City's MHPA if in compliance with construction and maintenance policies outlined in Section 1.4.2 of the Subarea Plan. Policies that are applicable to this project include: proposed utility lines should be designed to avoid or minimize intrusion into the MHPA; New utilities within or crossing the MHPA should be designed to minimize environmental impacts; temporary activities should not disturb existing habitat unless determined to be unavoidable; activities in wildlife corridors should avoid disruption of the corridor usage; roads in the MHPA are limited to those essential for maintenance/emergency access.

The Proposed Project is designed to bore under the San Diego River and thus under the MHPA. Therefore there are no impacts to the MHPA of the City of San Diego. Because the Proposed Project crosses the MHPA at the San Diego River, it is adjacent to the MHPA at that location and the Land Use Adjacency Guidelines (Section 1.4.3) apply. The appropriate guidelines for this project include: avoiding drainage into the MHPA, avoiding toxin materials within the MHPA resulting from drainage, directing lighting away from the MHPA, minimize noise impacts, provide barriers to prevent intrusion into the MHPA, prevent introduction of invasives into the MHPA. The bore site locations for the Proposed Project are approximately 300 to 500 feet away from the MHPA. The Proposed Project is designed to comply with the Land Use Adjacency Guidelines in avoiding drainage, toxics, noise, intrusion, and invasives into or adjacent to the MHPA. Thus, no conflicts with the Land Use Adjacency Guidelines would occur.

County of San Diego MSCP Subarea Plan

The County MSCP Subarea Plan is divided into several segments: the Metro-Lakeside-Jamul Segment is the largest and contains the project area. This segment does not contain substantial areas of existing public land. The MHPA will be created primarily through land acquisitions from willing sellers and through application of mitigation for impacts from private development projects at the ratios specified in the County's Biological Mitigation Ordinance (BMO; County of San Diego 1997b).

In accordance with the BMO, for a public project, such as the Proposed Project, the BMO is not applicable provided that the project is: consistent with the County General Plan, the MSCP Plan and Subarea plan; all feasible mitigation measures have been incorporated into the facility or project and there are no feasible, less environmentally damaging locations, alignments or alternatives that would meet the project objectives; where the project encroaches into wetlands, mitigation measures are required that result in a net gain of wetland habitat; where the project encroaches into steep slopes, native vegetation will be used to revegetate cut and fill areas; no mature riparian woodland is destroyed or reduces in size; all critical populations of sensitive species within the subarea including rare, narrow endemic animal species, narrow endemic plant species and San Diego County sensitive plant species area avoided as required by and consistent with the terms of the Subarea Plan.

The Proposed Project is located within the Metro-Lakeside-Jamul segment from mile-post 29.5 to approximately mile-post 29.75, from Proctor Valley Road to the boundary of the City of Chula Vista. Within this portion and in accordance with the project APMs and the protocols of the SDG&E NCCP, sensitive and narrow endemic species are proposed to be avoided as much as feasible, the applicant will coordinate with the USFWS and CDFG regarding the narrow endemic species, and mitigation measures are proposed as outlined above to avoid, minimize and mitigate for impacts to sensitive plant and animal species. No impacts are anticipated to occur to wetlands or mature riparian woodland, native vegetation is proposed to be used to restore all

temporary impacts. Thus this Proposed Project is exempt from the BMO, and less than significant impacts are anticipated to occur to the potential MHPA or County Subarea Plan (Class III) and therefore, no mitigation is required.

City of Chula Vista MSCP Subarea Plan

The overall purpose of the City of Chula Vista MSCP Subarea Plan is to provide conservation of sensitive habitats and species within the Chula Vista MSCP Subarea. The Subarea Plan provides specific assurances that much of the remaining natural habitat within the City is preserved and managed to provide for the survival of sensitive plant and wildlife species in perpetuity. The City of Chula Vista City Council conditionally adopted the Habitat Loss and Incidental Take (HLIT) Ordinance as a mechanism to implement the Subarea Plan. It should be noted that the condition of adoption for the ordinance was issuance of permits by the wildlife agencies pursuant to the Subarea Plan, which has not yet occurred.

Under the City of Chula Vista MSCP Subarea Plan, the Proposed Project is considered a Future Facility. As such, the implementation criteria identifies that: a Future Facility is subject to a limit of two acres of permanent impact to Covered Species and habitat within the preserve; if impacts exceed this limit, they are subject to concurrence by the resource agencies; Future facilities are subject to a cumulative limitation of 50 acres of overall permanent impact to covered species and habitat within the preserve; Future Facilities are subject to the narrow endemic species policy of the Subarea Plan and impacts are subject to equivalency findings; and all impacts to covered species and habitats, excluding narrow endemics species, are mitigated by the conservation strategies in the Subarea Plan and are authorized under the Take Authorization pursuant to the Subarea Plan.

The Proposed Project would impact 15.22 acres of Covered species habitats within the preserve area of which 1.13 acres is anticipated to be a permanent impact. The Proposed Project is located within the City of Chula Vista Subarea Plan from approximately mile-post 28 to mile-post 29.5 and mile-post 29.75 to mile-post 41 with portions of the Proposed Project located in the preserve within the Sweetwater Marsh Unit of the San Diego National Wildlife Refuge and along the ROW from the City's eastern boundary to approximately mile-post 33. Within this portion and in accordance with the project APMs and the protocols of the SDG&E NCCP, sensitive and narrow endemic species and sensitive habitats are proposed to be avoided as much as feasible, the applicant will coordinate with the USFWS and CDFG regarding the narrow endemic species, and mitigation measures are proposed as outlined above to avoid, minimize and mitigate for impacts to sensitive plant and animal species and sensitive habitats.

In order to protect the Preserve, adjacency requirements and guidelines have been included in the Subarea Plan (City of Chula Vista, February 2003, pg. 7-24). All new developments are required

to adhere to these guidelines. The Proposed Project anticipates compliance with these requirements and guidelines as outlined in the APMs, NCCP protocols, and mitigation measures outlined above. These guidelines fall into six main categories; drainage, toxic substances, lighting, noise, invasives and buffers. A summary of each category is provided below:

Drainage: All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the Preserve. Developments must implement urban runoff and drainage plans which will create the least impact practicable for all development adjacent to the Preserve. Pursuant to the San Diego Regional Water Quality Control Board Municipal Permit, and the City of Chula Vista Storm Water Management Standards Requirements Manual, all development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (such as the Otay River) are required to implement site design, source control and the treatment control BMPs. All National Pollution Discharge Elimination System (NPDES)-regulated projects shall implement a combination of BMPs as close to potential pollutant sources as feasible.

Toxic Substances: All uses that generate substances that are potentially toxic or impactive to wildlife, sensitive species, habitat or water quality need to incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the Preserve. Methods shall be consistent with requirements of the Regional Water Quality Control Board (RWQCB) and NPDES standards.

Lighting: Lighting of all developed areas adjacent to the Preserve should be directed away from the Preserve wherever feasible and consistent with public safety. Where necessary, development shall provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting. Consideration shall be given to the use of low-pressure sodium lighting.

Noise: Uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls shall be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve. Excessively noisy uses or activities adjacent to breeding areas, including temporary grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species, consistent with Table 3-5 of the MSCP Subregional Plan (City of Chula Vista 2003). Additional details regarding noise provisions during construction are outlined in the City of Chula Vista MSCP Subregional Plan (2003).

Invasives: No invasive non-native plant species shall be introduced into areas immediately adjacent to the Preserve. All open space slopes immediately adjacent to the Preserve shall be

planted with native species that reflect the adjacent native habitat. Appendix L of the Subarea Plan contains the "Wildland/Urban Interface: Fuel Modification Standards" which contains a plant list for mitigation or buffer plan consultation (City of Chula Vista 2003).

San Diego River Habitat Conservation Plan

For utility projects occurring in riparian areas, the San Diego River Habitat Conservation Plan states that trenching and construction must be carefully planned to avoid severe impacts on riparian habitat (SANDAG 1990). Unavoidable impacts must be mitigated through revegetation and/or replacement programs. Utilities may be considered conditionally compatible, conditionally incompatible and incompatible when placed adjacent to conserved areas identified under this habitat conservation plan (SANDAG 1990). The Proposed Project includes boring under the San Diego River and would thus result in no impacts to the riparian habitat within the San Diego River, to jurisdictional wetlands or waters of the U.S./State, or to the least Bell's vireo which potentially occurs within the reach of the San Diego River. Therefore, the potential for impact to biological resources by implementation of the Proposed Project would be considered a less than significant impact, requiring no mitigation (Class III).

Sweetwater River Habitat Conservation Plan

Land use impacts associated with utility projects in riparian areas are similar to those identified in the San Diego River Habitat Conservation Plan. For utility projects occurring in riparian areas, the Sweetwater River Habitat Conservation Plan states that trenching and construction must be carefully planned to avoid severe impacts on riparian habitat (SANDAG 1990). Unavoidable impacts must be mitigated through revegetation and/or replacement programs. Utilities may be considered conditionally compatible, conditionally incompatible and incompatible when placed adjacent to conserved areas identified under this habitat conservation plan (SANDAG 1990). The Proposed Project includes spanning the Sweetwater River using one transition cable pole and using existing bridge structures that are currently in place to string the new transmission lines. No impacts to the open water within this reach of the Sweetwater River would occur from the implementation of the Proposed Project. Therefore, the potential for impact to biological resources by implementation of the Proposed Project would be considered a less than significant impact, requiring no mitigation (Class III).

Critical Habitat

The designation of critical habitat for the coastal California gnatcatcher specifically excludes areas within functioning HCPs, such as SDG&E's NCCP. Designated critical habitat for the Quino checkerspot butterfly is north of the existing ROW. Critical habitat for the Otay tarplant has been designated within 0.5 mile of the Miguel Substation and the ROW and is on either side

of the Proposed Project from mile-post 29 to 33. As such, the Proposed Project will not impact critical habitat that has currently been designated by the USFWS.

D.3.3.4 230 kV Underground Cable

Impact B-1: Temporary and Permanent Loss of Sensitive Vegetation Communities

South Bay Power Plant Area to Sweetwater River Transition Area

Construction activities requiring ground disturbance include trenching through existing vegetation and land covers from the South Bay Power Plant to the southern boundary of the Sweetwater Marsh. The Sweetwater Marsh Unit of the San Diego National Wildlife Refuge would be crossed below the surface using conventional horizontal directional drilling techniques with bore sites located within the SDG&E ROW. Development of these proposed facilities would result in temporary impacts to drainages, coastal sage scrub, disturbed coastal sage scrub, baccharis scrub, coastal salt marsh, disturbed coastal salt marsh, and mud flat vegetation communities. At the southern bank of the Sweetwater River, a tubular steel pole will be placed to connect to the existing bridge structures in the next segment and to span the Sweetwater River. The placement of the tubular steel pole will result in temporary and permanent impacts to developed lands. A total of 3.96 acres of temporary impacts are anticipated to these sensitive vegetation communities.

As described in APMs 1, 2, 3, 4, 11, 39, 41, and 52, SDG&E will, to the extent feasible, restrict vehicles to existing roads, minimize impacts by defining the disturbance areas, design the project to avoid or minimize new disturbance and erosion, leave vegetation in place where recontouring is not required, build access roads at right angles to drainages, adjust routes of access roads to avoid sensitive habitats including wetlands and riparian areas. In addition to the project APMs, implementation of Mitigation Measure B-1a would ensure that impacts to sensitive vegetation communities (Impact B-1) would be mitigated to less than significant (Class II).

Sicard Street Transition Area to Old Town Substation

Ground disturbance associated with the Sicard Street Transition Area to Old Town Substation includes construction of one approximately 0.1-acre transition station at approximate mile-post 45 and installation of a new underground 230 kV transmission line primarily within city streets. The project proposes to bore under the San Diego River. Temporary and permanent impacts resulting from the implementation of this segment include impacts to developed land only and therefore, no impacts to vegetation communities or sensitive habitat would occur.

Impact B-2: Impacts to Sensitive Plant Species

South Bay Power Plant to Sweetwater River Transition Area

Four sensitive plant species are known to occur within this segment of the Proposed Project: Palmer's frankenia, Coulter's goldfields, estuary seablite. Palmer's frankenia, Coulter's goldfields, and the estuary seablite all appear to be within the ROW and are likely still present given the protection that is provided by being adjacent to the Sweetwater Marsh Unit of the San Diego National Wildlife Refuge. None of these species is covered by the SDG&E NCCP. Impacts to these species will likely be very low because the activities in this area are to trench within the disturbed or developed areas where no sensitive plants occur or to directional drill in areas underneath where sensitive plant species may be present. Based on the low numbers that are likely within the small area of the ROW, the low numbers that would be impacted, and the low sensitivity status of the species, the impacts would be considered adverse, but less than significant and would not require mitigation (Class III).

SDG&E NCCP Covered sensitive plant species with a moderate to high potential to occur within this segment include: San Diego ambrosia, saltmarsh bird's beak, Nuttall's lotus, and snake cholla. Surveys conducted in 2004 for San Diego ambrosia, saltmarsh bird's beak, and snake cholla were negative (Essex 2005). In addition to APMs 17, 21 and 53 as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measure B-2a would ensure that impacts to these species would be mitigated to less than significant (Class II).

Species not covered by the SDG&E NCCP with a moderate to high potential to occur within this segment include: Decumbent goldenbush and prostrate navarretia. For the species not covered by the SDG&E NCCP, due to the low occurrence of these species, low sensitivity status of the species, and few number that would be potentially impacted by project activities, the impacts would be considered adverse, but less than significant and would not require mitigation (Class III).

Sicard Street Transition Area to Old Town Substation

No impacts would occur to sensitive plant species as ground disturbance between the Sicard Street Transition Area to Old Town Substation would take place in developed and disturbed areas.

Impact B-3: Impacts to Sensitive Animal Species

South Bay Power Plant to Sweetwater River Transition Area

Five species are known to occur within the ROW of the Proposed Project: Belding's savannah sparrow, osprey, peregrine falcon, northern harrier, and light-footed clapper rail. All of these species except for the osprey are covered by the SDG&E NCCP. Impacts to the osprey, peregrine falcon, and northern harrier are not anticipated and would be less than significant (Class III) based on the small area within which the project will occur and the large distribution of these species. In addition to APMs 17, 21 and 53, as well as the operational protocols of SDG&E's NCCP (*Appendix 3*), implementation of Mitigation Measures B-3a, B-3f, and B-3g would ensure that impacts to the Belding's savannah sparrow, and light-footed clapper rail would be mitigated to less than significant (Class II).

Sicard Street Transition Area to Old Town Substation

A least Bell's vireo is documented in the database as being present within the San Diego River, however all project activities are located at least 1,400 feet away, thus no impacts will occur to this species. Therefore, no impacts to wildlife species would occur within this segment of the Proposed Project.

SDG&E NCCP covered sensitive wildlife species with a potential to occur within this segment, based on the presence of suitable habitat include: western snowy plover, long-billed curlew, large-billed savannah sparrow, California least tern, southern grasshopper mouse, and wandering skipper. Wandering skipper is known to occur within the patches of salt grass within this portion of the Chula Vista area. Although this species has not been documented as present within the project ROW, it is known for the area and suitable habitat is present. Of these species, the wandering skipper is a narrow endemic species. In addition to APMs 1, 2, 21, 36, 39, 41, 42, 43, 44, and 53 as well as operational protocols of SDG&E's NCCP, implementation of Mitigation Measures B-3a and B-3h would ensure that impacts to wandering skipper would be less than significant (Class II). The suitable habitat for the western snowy plover and California least tern is at a minimum of 500 feet from the proposed project. Impacts are not expected to occur to these species and no mitigation is required. For the long-billed curlew, large-billed savannah sparrow, and southern grasshopper mouse, all covered species, impacts are considered to be less than significant and therefore, no mitigation is required (Class III). Species not covered by the SDG&E NCCP with a potential to occur within this segment based on suitable habitat include: California black rail. This species is considered to be extirpated from southern California and no impacts would occur.

Impact B-8: Impacts to Regional Plans, NCCPs, HCPs, Conservation Plans and Critical Habitat

San Diego National Wildlife Refuge South San Diego Bay Unit and Sweetwater Marsh National Wildlife Refuge Comprehensive Conservation Plan

Currently the USFWS is in the process of developing a Comprehensive Conservation Plan (CCP) for the South San Diego Bay Unit and Sweetwater Marsh Unit of the San Diego National Wildlife Refuge ([NWR] USFWS 2000). The purpose of the planning effort is to develop a CCP that will provide the refuge areas with a 15-year management plant for the conservation of fish, wildlife and plant resources and their related habitats while also providing opportunities for compatible wildlife dependent recreation. Compatibility determinations must be prepared for all uses proposed on a refuge. These compatibility determinations have not yet been completed (USFWS 2001). The CCP is currently in a draft form. SDG&E has an existing ROW that crosses the eastern edge of the refuge but is considered outside of the boundary of the NWR. Two bore sites are anticipated to take place within SDG&E's ROW outside the Refuge lands. These bore sites provide access for the directional drilling and thus no new transmission lines will be installed on the bridge structures within the SDG&E ROW. The Proposed Project anticipates that with the implementation of the APMs, NCCP protocols, and mitigation measures outlined above, impacts to the NWR or the sensitive habitat located adjacent to the ROW will be mitigated to a level below significant (Class II).

D.3.3.5 Transition Station

The proposed Transition Station would be developed within an existing parking lot surrounded by urban development and therefore no impacts to biological resources would occur due to the construction and future maintenance of the Sicard Street Transition Station.

D.3.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

New structures in the Sycamore Canyon, Miguel and Old Town Substations would be developed within the existing property line and within areas previously disturbed for substation access. The work associated with substation and switch station upgrades would occur on the station sites and not within the public ROW. Because all construction of proposed modifications and future maintenance would take place within the existing substation's fenceline, which have been previously disturbed, no impacts to biological resources are anticipated.

D.3.4 Project Alternatives

D.3.4.1 SDG&E Design Option Alternatives (*Pacific Highway Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Environmental Setting

Section D.3.1 describes the biological setting along the Project alignment. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing biological resources would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. Because this design alternative would take place in previously graded areas associated with existing City of San Diego roadways, no impacts would occur to biological resources.

Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment Design Alternatives: Both the Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment design options would take place in previously graded areas surrounded by urban development and therefore, no impacts to biological resources would occur.

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative primarily consists of minor modifications to existing structures, project-related boring and directional drilling under the Sweetwater Marsh and associated biological resource impacts would be reduced under this alternative because the construction footprint is less. The South Bay Power Plant to Sweetwater River Overhead Option would result in no permanent impacts to sensitive habitat and approximately 2.7 acres of temporary impacts to sensitive habitats including coastal sage scrub, disturbed coastal sage scrub, baccharis scrub, southern coastal salt marsh, and mud flat. Class II impacts to sensitive vegetation would be mitigated to less than significant by implementation of APMs 1, 2, 3, 4, 11, 39, 41 and 52 and Mitigation Measure B-1a.

Impacts to wildlife corridors, and to regional plans, NCCPs, HCPs, conservation plans, and critical habitat are expected to be the same as those resulting from the Proposed Project which were determined to be less than significant, requiring no mitigation (Class III). Impacts resulting

from invasive plants and from indirect sources are also expected to be the same as those from the Proposed Project which were determined to be less than significant and no mitigation is required (Class III). Impacts to wildlife from electrocution/collisions may increase slightly with this alternative. The addition of the overhead line to the existing bridge structures which currently contain a number of existing transmission lines within the South Bay Power Plant Area to Sweetwater River segment adds a small but incremental potential impact for collision for birds using this migration corridor. This incremental impact is considered to be less than significant, requiring no mitigation (Class III).

Comparison to the Proposed Project

Biological resources impacts resulting from the construction of SDG&E's Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment, and Pacific Highway Bridge Attachment design options, would not be different from the Proposed Project which, for these particular design areas, were determined to have no impact to biological resources.

Project impacts to biological resources resulting from direct impacts to sensitive vegetation communities would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative. Under this alternative, temporary impacts to sensitive vegetation communities would be reduced by approximately three acres. Both the proposed project and this alternative result in impacts to wetland vegetation communities which may require permits from the resource agencies. The proposed project and this alternative have the potential to impact the same sensitive plant and wildlife species. This alternative has the potential for an incremental increase in bird collision impact, however this impact is less than significant, requiring no mitigation (Class III).

D.3.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.3.1 describes the biological resources setting along the project alignment. Because the Transmission System Alternative would occur in the same area as the Proposed Project, the existing biological conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Temporary and permanent impacts to vegetation communities would be greater under the Transmission System Alternative. In addition to the impacts to vegetation communities described for the Proposed Project, impacts resulting from removal of existing lattice structures and construction of a new 138 kV transmission line from Proctor Valley and Miguel Substations would occur. Under this alternative, an increase in impacts to sensitive vegetation communities of 27.8 acres of temporary and 0.5 acre of permanent impacts beyond what was anticipated under the Proposed Project would occur. Although the impacts to sensitive vegetation communities (Impact B-1) would be greater with this alternative, APMs 1, 2, 3, 4, 11, 39, 41, 52 and Mitigation Measure B-1a would mitigate impacts (Impact B-1) to less than significant (Class II).

Two sensitive plant species, San Diego barrel cactus and Otay tarplant, are known to occur within the existing SDG&E ROW and construction of this alternative would impact a greater number of these species when compared to the Proposed Project. Additional impacts to San Diego barrel cactus and Otay tarplant would occur as a result of removal of existing lattice structures and construction of a new 138 kV transmission line between the Proctor Valley and Miguel Substations. In addition to APMs 17, 21, 53 and the operational protocols of SDG&E's NCCP, implementation of Mitigation Measure B-2a would ensure that impacts to San Diego barrel cactus and Otay tarplant (Impact B-2) would be mitigated to less than significant (Class II).

Impacts to other sensitive plant species with the potential to occur in the project area would be avoided and minimized with APMs 17, 21 and 53, as well as implementation of operational protocol number 13 of SDG&E's NCCP. In addition, Mitigation Measure B-2a would ensure impacts to potentially occurring sensitive plant species (Impact B-2) would be mitigated to less than significant (Class II).

Three wildlife species are known to occur within the ROW of the Transmission System Alternative: coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, all of which are covered species of the SDG&E NCCP. Nesting raptors have also been documented to be present within the ROW. Potential impacts to nesting raptors and California gnatcatchers would be mitigated to less than significant (Class II) with implementation of Mitigation Measures B-3a, B-3b and B-3d. Less than significant impacts are expected to occur to the Cooper's hawk due to no loss of nesting or foraging habitat and thus, no mitigation is required (Class III). Less than significant impacts are also anticipated to occur to the least Bell's vireo since all construction activities would be conducted at least 400 feet from suitable Bell's vireo habitat, minimizing any potential noise impacts due to the project activities. Therefore, impacts to least Bell's vireo would be less than significant, requiring no mitigation (Class III).

Similar to the Proposed Project, impacts to other sensitive wildlife species covered by SDG&E's NCCP are anticipated to be less than significant under this alternative since they are not considered narrow endemics. For narrow endemic species, western burrowing owl and San Diego cactus wren, implementation of APMs 1, 2, 21, 36, 39, 41, 42, 43, 44 and 53 as well as operational protocols of SDG&E's NCCP and Mitigation Measures B-3a, B-3c, and B-3e would

mitigate impacts to these species to less than significant (Class II). Impacts to non-covered wildlife species would be less than significant, requiring no mitigation (Class III) due to the low likelihood of occurrence.

Impacts associated with restriction of wildlife movement and corridors (Impact B-4) would remain unchanged from the Proposed Project, which were determined to be less than significant, requiring no mitigation (Class III).

Similar to the Proposed Project, construction under the Transmission System Alternative could result in the introduction of new invasive plants or the spread of existing invasive species into portions of the project area in which invasive species do not already occur (Impact B-5). Potentially significant impacts associated with the spread of noxious weeds would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure B-5a.

Impacts associated with bird electrocution and tower/line collision (Impact B-6) would not be significantly different from the Proposed Project, which were determined to be less than significant, requiring no mitigation (Class III).

Potential indirect impacts (Impact B-7) from construction, including fugitive dust, human activity, decreased water quality (through sedimentation, urban contaminants, or fuel release, for example), construction noise, and night lighting under this alternative are anticipated to be greater than indirect impacts associated with the Proposed Project due to the longer construction period and greater ground disturbance. With implementation of APMs 1, 7 and 11, and Mitigation Measures B-3a through B-3h, impacts associated with fugitive dust, human activity, decreased water quality and construction noise would be mitigated to less than significant (Class II) with implementation of Mitigation Measure B-7a (Reduced night lighting on sensitive habitats).

The Transmission System Alternative is located within the County of San Diego MSCP Subarea Plan and the City of Chula Vista MSCP Subarea Plan. Impacts to these NCCPs (Impact B-8) would remain unchanged from impacts described in *Section D.3.3* for the Proposed Project, which were determined to be less than significant, requiring no mitigation (Class III).

Comparison to the Proposed Project

The Transmission System Alternative would result in greater impacts including indirect impacts, when compared to the Proposed Project, to sensitive vegetation communities (Impact B-1) and plant species (Impact B-2) due to the additional construction activities required under this alternative. However, impacts to vegetation communities and rare plants would be reduced to

less than significant with implementation of Mitigation Measures B-1a and B-2a, respectively. Other impacts to biological resources (Impacts B-3 through B-8) would not be substantially different from the Proposed Project.

D.3.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the no Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.3.3* for new transmission and generation, but could vary depending on length of transmission line and location pursued.

D.3.5 Mitigation Monitoring, Compliance and Report Table

Table D.3-7 shows the mitigation monitoring, compliance, and reporting program for biological resources. The CPUC, with assistance from the USFWS and CDFG, is responsible for ensuring compliance with the mitigation, monitoring, compliance and reporting program for biological resources. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the OMPPA Transmission Project are listed. NCCP operational protocols are provided in *Appendix 3* to this EIR. *Table D.3-7* indicates whether the measure is applicant-proposed or agency-recommended or combination. As indicated in *Table D.3-7*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
B-1	Temporary and Permanent Loss of Sensitive Vegetation Communities	B-1a	1, 2, 3, 4, 7, 11, 17, 21, 36, 39, 41, 42, 43, 44, 53, 55	See Table D.3-4 for description of APMs. Where impacts to drainages, open water, coastal sage scrub, disturbed coastal sage scrub, baccharis scrub, coastal salt marsh, disturbed coastal salt marsh, and mud flat cannot be avoided, SDG&E shall either restore temporarily disturbed areas to pre- construction conditions following construction or deduct from the SDG&E Mitigation Credits, as stated in the SDG&E NCCP. Where onsite restoration is planned for mitigation of temporary impacts to sensitive vegetation communities, the Applicant shall identify a Habitat Restoration Specialist to be approved by the CPUC to determine the most appropriate method of restoration. Restoration techniques can include: hydroseeding, handseeding, imprinting, and soil and plant salvage, as discussed in Section 7.2.1 of the NCCP. Monitoring would include visual inspection of restored areas after one year. A second application may be made. If, after the second year, restoration is deemed unsuccessful, the USFWS and CDFG, in cooperation with SDG&E, shall determine whether the remaining loss shall be mitigated through a deduction from the SDG&E Mitigation Credits, or a third application would better achieve the intended purpose. The mitigation objective for impacted sensitive vegetation communities shall be restoration to pre-construction conditions as measured	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide verification to CPUC of measure including submittal of plans and evidence concerning success of restoration and determinations by USFWS and CDFG. CPUC to inspect in order to ensure that temporary impacts to sensitive vegetation shall be restored to pre-construction conditions and that permanent impacts will be compensated for through use of SDG&E's NCCP mitigation bank credits.	Prior to construction, during construction and after construction from the Sycamore Canyon Substation to Sicard Street Transition Area.			

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				by species cover, species diversity, and exotic species cover. The cover of native species should increase while the cover of non-native or invasive species should decrease. Success criteria shall be established by comparison with reference sites. If, however, roots are not grubbed during temporary impacts, restoration/ hydroseeding may not be necessary. This applies to impacts greater than 500 square feet, and only where grubbing occurred. For all temporary impacts greater than 500 square feet, acreage not meeting success criteria shall be deducted from SDG&E's mitigation credits at a 1:1 ratio. Impacts to jurisdiction wetlands may require permits from the wetland permitting resource agencies is required in accordance with APMs 11, 52, and 55. Wetland areas that may require permits from the resource agencies for temporary impacts include drainage, open water, coastal salt marsh, disturbed coastal salt marsh, and mud flat. The need to obtain permits will be determined by the resource agencies.						
B-2	Impacts to Sensitive Plant Species	B-2a	17, 21, 53	See Table D.3-4 for description of APMs. A qualified biologist approved by the CPUC, shall conduct focused surveys for San Diego barrel cactus, willowy monardella, San Diego ambrosia, Otay tarplant, snake cholla, Mexican flannelbush, Nuttall's lotus, and saltmarsh bird's beak in the spring of 2005, prior to the start of construction. All	SDG&E to implement APMs and mitigation measure as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if	Prior to and during construction for all areas identified as having sensitive plants (Sycamore Canyon Substation to Sicard Street Transition Station).			

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				of the above sensitive plant locations shall be recorded using a global positioning system (GPS) and flagged during surveys for impact avoidance during project construction. All of the above sensitive plants that are delineated shall be avoided to the maximum extent possible by any temporary or permanent soil disturbing project activities such as driving, staging, or deposition of auger spoils. If avoidance is not feasible, the alternative construction methodology of using a helicopter may be required. This methodology is specifically identified per the SDG&E NCCP as being appropriate for impact avoidance in marsh habitat areas. Translocation may or may not be a viable alternative and would need to be coordinated with and approved by the resource agencies. Where avoidance is not feasible, the Applicant shall coordinate with the USFWS and CDFG regarding potential restoration/ compensation measures which may include translocation, restoration, or seasonal restrictions. A qualified biologist approved by the CPUC prior to the start of construction shall monitor project activities for all work conducted at or around locations that are found to have sensitive plants to ensure impact avoidance and/or mitigation compliance.		possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.				

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
B-3	Impacts to Sensitive Animal Species	В-За	1, 2, 21, 36, 39, 41, 42, 43, 44, 53	 See Table D.3-4 for description of APMs. General Measures A qualified biologist approved by the CPUC prior to the start of construction shall monitor project activities for all work conducted at or around locations that are found of narrow endemic wildlife species or their habitat to ensure impact avoidance and/or mitigation compliance. Consultation with USFWS and CDFG is required prior to undertaking any activity that would impact a narrow endemic species in order to agree on specific suitable actions. Such actions may include seasonal restrictions or relocation. 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.	Prior to and during construction for all areas identified as having sensitive animal species (Sycamore Canyon to Sicard Street Transition Area).			
		B-3b		 California gnatcatcher All grading or brushing taking place within coastal sage scrub, disturbed coastal sage scrub, or chaparral/ coastal sage scrub, habitats of the coastal California gnatcatcher (as identified in the EIR and through surveys required under the APMs which include focused surveys for the California gnatcatcher), shall be conducted from September through February, which is outside the coastal California gnatcatcher breeding season. When conducting all other project activities during the coastal California gnatcatcher breeding season of March 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.	Prior to and during construction for all areas identified as having California gnatcatcher.			

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
			#5	 through August, within habitat in which coastal California gnatcatchers are known to or have a high potential to occur as identified in the EIR and through surveys required under the APMs which include focused surveys for the California gnatcatcher, the following avoidance measures shall apply: (a) A qualified biologist approved by the CPUC, shall survey for coastal California gnatcatchers within one week prior to initiating project activities in an area. If coastal California gnatcatchers are present, but not nesting, a qualified biologist shall survey for nesting coastal California gnatcatchers are present, but not nesting, a qualified biologist shall survey for nesting coastal California gnatcatchers approximately once per week in the vicinity of project activities, for the duration of the activity in that area. If an active coastal California gnatcatcher nest is located in the vicinity of project activities, a biologist qualified for coastal California gnatcatcher nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest. (b) If the coastal California gnatcatcher nest monitor determines that the 						

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				disrupting the nesting activities, the monitor shall make recommend- ations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting coastal California gnatcatchers and the project activities, and working in other areas until the young have fledged.						
		B-3c		 San Diego cactus wren All grading or brushing taking place within cactus patches, habitat for the San Diego cactus wren, (as identified in the EIR and through surveys required under the APMs which include focused surveys for the San Diego cactus wren), shall be conducted from September through February, which is outside the San Diego cactus wren breeding season. Grading, brushing, and any other project activity shall avoid impacting large cactus wren. When conducting project activities during the San Diego cactus wren breeding season of March through August within potential habitat, the following avoidance measures shall apply: 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.	Prior to and during construction for all areas identified as having San Diego cactus wren.			

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
			#5	 (a) A qualified biologist approved by the CPUC, shall survey for San Diego cactus wren within one week prior to initiating project activities in an area. If San Diego cactus wrens are present but not nesting, a qualified biologist shall survey for nesting San Diego cactus wrens once per week in the vicinity of project activities, for the duration of the activity in that area. If an active San Diego cactus wren nest is located in the vicinity of project activities, a biologist qualified for San Diego cactus wren nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest, or the fledglings become independent of their nest. (b) If the San Diego cactus wren nest monitor determines that project activities are disturbing or disrupting the nesting activities of an active nest, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment 						
				limited to, turning off vehicle						

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				cactus wren and the project activities, and working in other areas until the young have fledged.						
		B-3d		 Raptors Prior to construction, SDG&E shall remove all existing raptor nests from structures that would be affected by project construction. Removal of nests shall occur outside the raptor breeding season (January to July). If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist, approved by the CPUC prior to the start of construction, shall survey the nest prior to removal to determine if the nest is active. If the nest is inactive, it shall be removed promptly. If a nest is determined to be active, the nest shall not be removed and the biologist shall monitor the nest to ensure nesting activities/breeding activities are not disrupted. If the biological monitor determines that project activities, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity of the nest. 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.	Prior to and during construction for all areas identified as having sensitive animal species (Sycamore Canyon to Sicard Street Transition Area).			
		B-3e		 Western burrowing owl All grading or brushing of areas containing nest burrows (as identified in the EIR and through surveys required under the APMs which include focused surveys for the western burrowing owl), 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary.	Prior to and during construction for all areas identified as having western burrowing owl.			

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				 shall be conducted from September through January, which is outside the burrowing owl breeding season. Grading, brushing, and any other project activity shall avoid impacting burrows that are potential nest burrows that may provide suitable nesting habitat for the burrowing owl. When conducting project activities during the western burrowing owl breeding season of February through August within potential habitat, the following avoidance measures shall apply: (a) A qualified biologist approved by the CPUC, shall survey for western burrowing owl within one week prior to initiating project activities in an area. If western burrowing owls are present but not nesting, a qualified biologist shall survey for nesting western burrowing owls once per week in the vicinity of project activities, for the duration of the activity in that area. If an active western burrowing owl burrow is located in the vicinity of project activities, a biologist qualified for western burrowing owl nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest, or the fledglings become independent of their nest. 		CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.			

		Μ	IITIGA	TABLE TION MONITORING PROGI		ICAL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				(b) If the western burrowing owl nest monitor determines that project activities are disturbing or disrupting the nesting activities of an active nest, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting western burrowing owl and the project activities, and working in other areas until the young have fledged.			
		B-3f		 Belding's savannah sparrow All grading or brushing taking place within coastal salt marsh and disturbed coastal salt marsh habitats of the Belding's savannah sparrow (as identified in the EIR and through surveys required under the APMs which include focused surveys for the Belding's savannah sparrow), shall be conducted from September through February, which is outside the Belding's savannah sparrow breeding season. When conducting all other project activities during the Belding's savannah sparrow breeding season of March through August, within habitat in which 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.	Prior to and during construction for all areas identified as having Belding's savannah sparrow.

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				 Belding's savannah sparrows are known to or have a high potential to occur, the following avoidance measures shall apply: (a) A qualified biologist approved by the CPUC, shall survey for Belding's savannah sparrows within one week prior to initiating project activities in an area. If Belding's savannah sparrows are present, but not nesting, a qualified biologist shall survey for nesting Belding's savannah sparrows approximately once per week in the vicinity of project activities, for the duration of the activity in that area. If an active Belding's savannah sparrow nest is located in the vicinity of project activities, a biologist qualified for Belding's savannah sparrow nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest. (b) If the Belding's savannah sparrow nest the project activities are disturbing or disrubing the nesting activities are disturbing or disrubing the nest disturbing or disrubing the nest disturbing the nest disturbing or disrubing the nest disturbing or					
				are no longer in the vicinity of the nest or the fledglings become independent of their nest. (b) If the Belding's savannah sparrow nest monitor determines that the					

		N	IITIGA	TABLE TION MONITORING PROGI		ICAL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				but not limited to, turning off vehicle engines and other equipment when ever possible to reduce noise, installing a protective noise barrier between the nesting Belding's savannah sparrows and the project activities, and working in other areas until the young have fledged.			
		B-3g		 Light-footed clapper rail All grading or brushing taking place within coastal salt marsh and disturbed coastal salt marsh habitats of the light-footed clapper rail (as identified in the EIR and through surveys required under the APMs which include focused surveys for the light-footed clapper rail), shall be conducted from September through February, which is outside the light-footed clapper rail breeding season. When conducting all other project activities during the light-footed clapper rail breeding season of March through August within habitat in which light-footed clapper rails are known to or have a high potential to occur, the following avoidance measures shall apply: (a) A qualified biologist approved by the CPUC, shall survey for light-footed clapper rails within one week prior to initiating project activities in an area. If light-footed clapper rails are gresent, but not nesting, a qualified biologist shall survey for 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.	Prior to and during construction for all areas identified as having light-footed clapper rail.

		Μ	IITIGA	TABLE TION MONITORING PROGI		ICAL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				 nesting light-footed clapper rails approximately once per week in the vicinity of project activities, for the duration of the activity in that area. If an active light-footed clapper rail nest is located in the vicinity of project activities, a biologist qualified for light-footed clapper rail nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest. (b) If the light-footed clapper rail nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor shall make recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment when ever possible to reduce noise, installing a protective noise barrier between the nesting light-footed clapper rails and the project activities, and working in other areas until the young have fledged. 			
		B-3h		 Wandering Skipper A qualified biologist approved by the CPUC, shall conduct a focused survey for wandering skipper, prior to the start of 	SDG&E to implement APMs and mitigation measures as defined and incorporate	SDG&E to provide survey report documentation to CPUC regarding avoidance and USFWS/CDFG	Prior to and during construction for all areas identified as having wandering skipper.

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES							
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
			#s	 construction. All areas containing salt grass, the larval plant host, shall be recorded using a global positioning system (GPS). In addition, the boundaries of all salt grass patches shall be clearly staked and flagged during the surveys for impact avoidance during implementation of the Proposed Project. All patches of salt grass that are delineated shall be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging, or deposition of auger spoils. If avoidance is not feasible, the alternative construction methodology of using a helicopter may be required. This methodology is specifically identified as being appropriate for impact avoidance in marsh habitat areas. Other methods of avoidance of the wandering skipper may or may not be viable alternatives and would need to be coordinated with the resource agencies. Moreover, if avoidance is not feasible, the Applicant shall coordinate with the USFWS regarding potential compensation measures. If permanent impacts would take place to wandering skipper, the project feature resulting in the permanent impacts. 	commitments into construction contracts.	concurrence as necessary. CPUC to inspect periodically during construction in order to ensure successful avoidance if possible/or if not possible implementation of USFWS/CDFG approved measures deemed necessary.		

		Μ	IITIGA	TABLE TION MONITORING PROGI		ICAL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				cannot be relocated due to engineering constraints, the project biologist and USFWS and CDFG shall coordinate to determine suitable mitigation for the impacts. Any project variance resulting from such coordination efforts shall also comply with Mitigation Measure L-4a (see Section D.7, Land Use and Recreation).			
B-5	Impacts by Invasive Plant Species	B-5a		 SDG&E shall prevent invasion of invasive, non-native plant species into sensitive plant species habitats and vegetation types by: Implementation of specific protective measures during construction, approved by the CPUC, such as cleaning vehicles prior to off-road use, using weed-free imported soil, restricted vegetation removal and requiring topsoil storage. Development and implementation of weed management procedures approved by the CPUC, to monitor and control the spread of weed populations along the ROW. Vehicles used in transmission line construction shall be cleaned prior to operation off or maintained roads. Fill material, soil amendments, gravel, etc., required for construction/restoration activities shall be obtained from a source that can certify the soil as being "weed free." 	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into contract specifications. CPUC to inspect periodically to ensure that revegetated areas have been successfully protected from the introduction or establishment of invasive species in post-construction areas.	Prior to, during and after construction from Sycamore Substation to Sicard Street Transition Area.

	TABLE D.3-7 MITIGATION MONITORING PROGRAM – BIOLOGICAL RESOURCES								
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				 Existing vegetation shall be cleared only from areas scheduled for immediate construction work (within 10 days) and only for the width needed for active construction activities. During construction, the upper 12 inches of topsoil (or less depending on existing depth of topsoil) shall be salvaged and replaced wherever the transmission line is trenched through open land (not including graded roads and road shoulders). Disturbed soils shall be revegetated with an appropriate seed mix that does not contain invasive, non-native plant species. 					
B-7	Indirect impacts	B-7a		Reduce night lighting on sensitive habitatsExterior lighting within the project area adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable.	SDG&E to implement APMs and mitigation measures as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contract specifications. CPUC to inspect periodically to ensure correct placement of lighting to prevent night lighting impacts to sensitive habitats.	Prior to and during construction.		

D.3.6 References

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D.4 CULTURAL RESOURCES

This section evaluates the potential for the Proposed Project and alternatives to impact both previously identified and unanticipated cultural resources in the project area during construction and operation. *Section D.4.1* provides a description of the environmental setting and *Section D.4.2* provides applicable regulations. Potential impacts and mitigation measures for the Proposed Project are outlined in *Section D.4.3* and the cultural resource impacts related to project alternatives are discussed in *Section D.4.4*. The mitigation recommendations and the monitoring, compliance, and reporting program for cultural resources are presented in *Section D.4.5*.

D.4.1 Environmental Setting for the Proposed Project

Information for the proposed OMPPA Transmission Project and proposed alternatives compiled in the following section was gathered from review of SDG&E's PEA (March 2004), the cultural resources technical report prepared for SDG&E by Engineering-Environment Management, Inc. (E2M July 2004), supporting documents contained in SDG&E Supplemental Application Nos. 1 and 2, consultations with the City of San Diego, San Diego Unified Port District as well as Native American consultations conducted by SDG&E. The data-collection methods included the following:

- Records searches conducted at the South Coastal Information Center (SCIC) of the California Historic Resource Information System (CHRIS) and at the San Diego Museum of Man (SDMM). The records searches consisted of reviews of archaeological site records and other cultural technical reports prepared for projects that overlap portions of the Proposed Project.
- Field surveys were conducted in order to verify the location of any previously identified cultural resources, to cover previously unsurveyed lands within the boundaries of the Proposed Project, and to inspect all areas identified as surface work sites or locations of subsurface activities. The survey areas included 150 feet on each side of the center of the existing SDG&E ROW, substation areas, Sicard Street Transition Station and temporary work areas. Cursory inspection was conducted for developed areas, densely vegetated areas, and steep slopes. Field surveys are useful for identifying aboveground or surface cultural resources and for identification of high-probability areas. However, negative pedestrian survey results do not preclude the possibility that buried archaeological deposits could be discovered.
- Information gathered from archival research and field surveys was also used to assess the potential for encountering previously unrecorded resources in the project area.

• Native American consultation letters were sent out on June 24, 2004 to the Native American Commission as well as various Native American representatives requesting information on any sacred lands or sites within the Proposed Project alignment. Follow-up phone calls were made by SDG&E in July and August 2004. No additional information on sacred sites was gathered as a result of consultation. NAHC correspondence letters and a table of contacts and comments are presented in APPENDIX 4 to this EIR.

D.4.1.1 Natural Setting

The project alignment is located in the southern part of the Peninsular Ranges Geomorphic Province of southern California. This province extends from south of the U.S. – Mexico border northward to the southern mountain front of the Transverse Ranges (just north of Los Angeles). The province is bounded on the east by the Colorado Desert province. The landscape in the eastern and central part of the project area is defined by fault-block mountains separated by alluvium-filled valleys. Wide, sand- and boulder-filled river washes cut through the mountains and across the valleys in this part of the project area. The western portions of the province are characterized by the coastal plain which consists of numerous marine and non-marine terraces, which are dissected by stream valleys.

The project alignment traverses diverse topography ranging from rugged to steep slopes between the Sycamore Canyon Substation to Fanita Junction to virtually flat adjacent to the San Diego Bay and crosses several major rivers and creeks including the San Diego River, Sweetwater River, Sycamore Canyon Creek, Paradise Creek and Chollas Creek.

This topographic diversity is also reflected in the biological communities present. Vegetation in the project vicinity is varied, reflecting a complex interaction of soils, geology, topography, and hydrology. Plants typical of the coastal sage scrub and chaparral plant communities blanket many of the slopes, whereas riparian species grow along the floors of the larger drainage channels. These plant communities provide habitat for a range of small- to medium-sized animals.

Natural habitats in the project vicinity have undergone significant alteration as a result of modern encroachment. Livestock grazing, orchard terracing, and other agricultural activities have altered the native plant communities. Quarrying and other mining activities, as well as urban development have disturbed large areas. Extensive areas of native landscape remain in the more rugged portions of the project vicinity.

D.4.1.2 Ethnographic Background

The project area is located in the southwestern portion of San Diego County within the historical territory of the Kumeyaay people. Kumeyaay is a native term referring to all Yuman-speaking peoples living in the area from San Dieguito River south to the Sierra Juarez in Baja California and roughly west of present-day Salton Sea. Prior to European contact, Kumeyaay territory may have extended as far north as the San Luis Rey River. To the north of the Kumeyaay live the Takic-speaking Luiseño and Cahuilla. To the east and south are other peoples who speak a variety of distinct languages to the Yuman language family.

The Kumeyaay have been referred to by a confusing array of names. The standard practice during the Spanish colonial era in California was to name all native peoples within the sphere of influence of a particular mission district after that mission; hence, the native people living around Mission San Diego de Alcalá came to be known as Diegueño. Because this nomenclature generally ignored traditional socio-political divisions, anthropologists later began to apply the terms Tipai and Ipai to distinguish between two culturally and linguistically distinct groups. More recent ethnographic data and historic records indicate that the people refer to themselves as Kumeyaay and this is now the most widely accepted name.

On the basis of linguistic and archaeological evidence, it has been suggested that the ancestors of the present-day Kumeyaay arrived in this part of California sometime between 1000 B.C and A.D. 1000. Adding new cultural traditions to the earlier patterns, the ancestral Kumeyaay seem to have assimilated with the earlier inhabitants rather than displaced them.

The Kumeyaay were organized socio-politically into autonomous bands, each controlling from 10 to 30 miles of a drainage. Each band usually occupied a main village and several satellite habitations. These settlements were temporary, though, as the community would disband seasonally into smaller groups, which would establish camps to gather, process, and cache seasonally available resources. Seasonal movements were geared toward following the ripening of major plants from canyon floor to the higher mountain slopes. During the winter months, the band would typically aggregate back to the main village.

The complexity of Kumeyaay residential structures varied according to locality and need. In summer camps, for instance, a windbreak or rock shelter might be sufficient protection from the elements. In winter, however, more substantial structures might be needed, in which case the Kumeyaay typically built thatch-covered dome or gable houses.

Leadership of each band was invested in a clan chief and at least one assistant. Positions were generally inherited, although a chief could be selected by consensus. Chiefs typically derived their authority through strength of personality and social skills rather than by force, as they had

no real coercive powers. The duties of the chief included resolving disputes, advising about marriages, appointing leaders for important gathering expeditions, and directing clan and interclan ceremonies.

The Kumeyaay practiced a fairly typical California hunting and gathering subsistence regime based on a variety of locally abundant terrestrial and aquatic resources. The Kumeyaay diet was heavily dependent on harvesting wild plant foods, with a strong emphasis on acorns. An abundance of other plant food, including many different kinds of seeds, bulbs, and other plants, rounded out the diet. Meat was procured through hunting of small game, including rabbits, squirrels, and various reptiles. Many of these animals were captured with nets or by hand. Larger game, such as deer, was taken with bow and arrow, but probably did not figure prominently in the diet. Besides abundant plants, the inhabitants living in the coastal zone had access to rich marine environments which provided abundant shellfish, fish, and sea mammals.

Interaction with neighboring tribes was maintained through extensive trade networks involving the movement of goods and information from diverse ecological zones. The San Diego area Kumeyaay appear to have maintained stronger trade relationships with their neighbors to the east with groups to the north and south, as evidenced by a lively trade between the seacoast and inland areas as far east as the Colorado River. Acorns, dried seafood, ornamental marine shell, and other materials moved eastward from the coast and uplands, and salt, gourd seeds, and mesquite beans moved in the opposite direction.

Contact between the Kumeyaay and Europeans began in 1542 when Juan Rodriguez Cabrillo landed the first Spanish expedition in San Diego. Sustained cultural interaction did not develop, however, until the founding of Mission San Diego Alcalá in 1769. Although the Kumeyaay culture was not as severely impacted by Spanish colonization as some other California tribes, its socio-political structure was drastically disrupted during the Mission period and later. Those Kumeyaay living closest to the mission were hardest hit by European civilization, whereas groups living in the mountains were less traumatized by cultural interaction and preserved more of their culture longer.

By the end of the nineteenth century, most Kumeyaay had been disenfranchised from their lands and relegated either to reservations or, for those who remained living in mainstream Euro American society, to rural areas or the edges of small towns on land that whites did not want. Employment opportunities were few. Most were poorly paid and labored in mines, on ranches, or in town, although some still supplemented their income with traditional subsistence activities.

D.4.1.3 Prehistoric Setting

Southern San Diego County contains archaeological evidence of human use and occupation that spans the known periods of prehistory. The earliest sites are from the early Holocene and are known as the San Dieguito complex (9,000 - 7,500 years ago), so-named because the culture was first defined at a site along San Dieguito River, about 20 miles north of the current project area. The archaeological remains of this period consist of large, stemmed projectile points and finely made scraping and chopping tools, which were used for hunting and processing large game animals.

The La Jolla complex (7,500 - 2,000 years ago) followed the San Dieguito complex. La Jollan sites are recognized by abundant milling stone assemblages in shell middens often located near lagoons and sloughs. This period brought a shift from hunting to a more generalized subsistence strategy relying on a broader range of resources, including plant, shellfish, and small game. During this period, the number of sites increased from the earlier San Dieguito, and sites are located across a greater range of environmental zones.

The origin of the La Jolla complex is unclear. Some researchers believe that it developed out of the earlier San Dieguito complex, whereas others feel that it may have coexisted with San Dieguito, and merely represent exploitation of distinct environments by the same culture. Regardless, the remains of these two complexes indicate very different subsistence strategies, with the San Dieguito complex focusing on hunting and the La Jolla complex based on a broader-based foraging strategy. Interestingly, some of the oldest ceramics in America, in the form of figurines, have been recovered from La Jollan sites in neighboring Orange County. Regional variants of the San Dieguito and La Jolla complexes are found in interior regions of San Diego County. The Pauma complex, originally believed to be a distinct archaeological culture, is more likely a regional variant of the better-known La Jolla complex.

As elsewhere during late prehistory in southwestern California, the Yuman complex (1,300 – 200 years ago) was a time of cultural transformation. Beginning about 1,000 years ago, Yuman-speaking groups moved into the San Diego area. These later populations are recognized by distinctive small projectile points, ceramic vessels, and an increase in the use of mortars. The corn became in increasingly important component of the diet, although subsistence pursuits from earlier periods continued. The number of Yuman-complex sites dramatically increased over the earlier periods.

Although there are differences in the settlement patterns noted for each successive period, habitation sites from all periods are most commonly found near lagoons and the open coast, or along stream channels in the valleys. In general, the coastal zone and locations at the mouth of canyons or at the confluence of streams are archaeologically sensitive and likely to contain sites

ranging from small activity areas to habitation sites. Smaller special-use sites are found scattered across all environmental zones, particularly near water sources. Extensive prehistoric quarries are known from the general region, and milling features on bedrock outcrops are nearly ubiquitous in the inland portions of the County. Rock art sites have also been recorded in the area.

D.4.1.4 Historical Setting

The historical period began in the San Diego area with the voyage of Juan Rodriguez Cabrillo, who landed near Point Loma on September 28, 1542. Although several expeditions were later sent to explore the Alta California coast, for nearly two centuries following Cabrillo's voyage, the Spanish government showed little interest in the region, focusing instead on the Mexican mainland and on Baja California. In the 1760s, however, spurred on by the threat to Spanish holdings in Alta California by southward expansion of the Russian sphere of influence, the Spanish government began planning for the colonization of Alta California.

The Spanish originally planned to establish their first settlement in Alta California at San Diego using a four-pronged expedition. Two groups would arrive by sea and two by land. The various expeditions departed from their respective locations throughout the first half of 1769. The two ships and both overland parties eventually reached San Diego. A third supply ship was dispatched to join the rest of the expedition, but it was apparently lost at sea. Meeting in San Diego, the colonists succeeded in establishing Mission San Diego de Alcalá on July 16, 1769 (Rolle 1978). For the next 50 years, mission influence grew in southern California: Mission San Luis Rey de Francia, located north of San Diego in present-day Oceanside, was established on June 13, 1798, and the assistance of Santa Ysabel and a dam and flume in Mission Gorge constructed around 1818. The mission economy was based on farming the fertile river valleys and open-range ranching over the vast expanses of territory.

As part of their colonization goals, the church hierarchy felt an obligation to convert the native peoples to Christianity, and the church worked diligently at converting the local populations. The mission priests gathered as many Kumeyaay into the mission as possible. Once there, the neophytes essentially were held captive while they received religious instructions and provided free labor for the mission, often forcibly. The effects of mission influence upon the local native population were devastating. The reorganization of their traditional lifestyle alienated them from their previous subsistence patterns and social customs. European diseases for which the Kumeyaay had no immunities reach epidemic proportions and many died.

Mexican independence from Spain in 1821 was followed by secularization of the California missions in 1823. Between 1833 and 1845, the newly formed Mexican government began to divide up the immense church holdings into land grants. By the 1840s, ranches, farms, and

dairies were being established throughout the El Cajon Valley, along the Sweetwater River, and in nearby areas.

The rancho era in California was short-lived and in 1848 Mexico ceded California to the United States under the Treaty of Guadalupe Hidalgo. Growth of the region was comparatively rapid after succession. Subsequent gold rushes, land booms, and transportation development all played a part in attracting settlers to the area. San Diego County was created in 1850, the same year that the City of San Diego was incorporated. Over the next 20 years, the County's population increased six-fold and the City population more than tripled (San Diego Historical Society 2004). By the late 1800s, the County was still growing and a number of outlying communities developed around the old ranchos and land grants. Historically, much of the project alignment is within what were the original Spanish, Mexican, and later American land grants, including Rancho de la Mission San Diego de Alcalá, Rancho Otay, Jamacha Rancho, and El Cajon Rancho.

D.4.1.5 Identified Cultural Resources

In all, 17 cultural resources have been recorded within or adjacent to (within 200 feet of) the proposed OMPPA Transmission Project ROW (*Table D.4-1*). All of the recorded sites are either prehistoric or historical-period archaeological sites and none qualify as eligible for California Register of Historic Resources (CRHR). Cultural resources which qualify as eligible for the CRHR are considered historically or culturally significant resources(CCR 15064.5). No Native American sacred sites are known to exist in the project area and none are expected.

Sycamore Canyon to Fanita Junction

A total of three cultural resources were identified within the Sycamore Canyon to Fanita Junction Segment, of which two are prehistoric isolated artifacts (Sites CA-SDI-9118 and CA-SDI-9119) and one is a historic foundation (Site CA-SDI-9121H). All three previously recorded resources were determined to be ineligible for the CRHR or to be non-unique archaelogical resources.

Miguel Substation to South Bay Power Plant

One cultural resource site was identified within the Miguel Substation to South Bay Power Plant Area Segment, Site CA-SDI-12,072. This prehistoric archeological site, was determined to be ineligible for the CRHR or to be non-unique archaelogical resources.

TABLE D.4-1 CULTURAL RESOURCES IDENTIFIED IN THE OMPPA TRANSMISSION PROJECT ROW

Resource	Description	Site Status/CRHR Eligibility Status	
Sycamore Canyon to	o Fanita Junction Segment		
CA-SDI-9118	Prehistoric isolated artifact; collected	Destroyed/ Not Eligible	
CA-SDI-9119	Prehistoric isolated artifact and milling feature	Not Eligible	
CA-SDI-9121H	Historic foundations	Not Eligible	
Miguel Substation to	o South Bay Power Plant Area Segment		
CA-SDI-12,072	Prehistoric archeological site	Not Eligible	
South Bay Power Pla	ant Area to Sweetwater River Transition Area Segme	nt	
CA-SDI-16385H	Historic remains of railroad tracks and bed	Not Eligible	
CA-SDI-13073H	Historic remains of railroad bed	Not Eligible	
Sweetwater River Tr	ansition Area to Sicard Street Transition Area		
No cultural resources identified.	Not Applicable.	Not Applicable.	
Sicard Street Transi	tion Station to Old Town Substation Segment		
CA-SDI-36	Prehistoric shell scatter	Destroyed/Not Eligible	
CA-SDI-53	Prehistoric campsite under railroad tracks	Destroyed/Not Eligible	
CA-SDI-54	Prehistoric campsite under railroad tracks near Pacific Coast Highway	Destroyed/Not Eligible	
CA-SDI-5931	Prehistoric campsite under railroad tracks near Sigbee and Dewey Streets	Destroyed/Not Eligible	
CA-SDI-16683	Prehistoric shell middens	Destroyed/Not Eligible	

Source: E2M July 2004

South Bay Power Plant Area to Sweetwater River Transition Area

Two cultural resource sites were identified adjacent to the South Bay Power Plant to Sweetwater River Transition Area, Sites CA-SDI-13,073H and CA-SDI-16,385H. These sites were characterized as historic remains of a railroad and were ineligible for the CRHR or to be non-unique archaelogical resources..

Sweetwater River Transition Area to Sicard Street Transition Area

No cultural resource sites were identified within or adjacent to this project segment.

Sicard Street Transition Area to Old Town Substation

A total of five prehistoric cultural resources were previously recorded for areas adjacent to the Sicard Street Transition Station to Old Town Substation Segment: Sites CA-SDI-36, CA-SDI-53, CA-SDI-54, CA-SDI-5,931, and CA-SDI-16,683. For Sites CA-SDI-36, CA-SDI-53, CA-SDI-54, limited information regarding the exact location, extent, or types of artifacts/resources was found in the available literature. The presence of these sites indicates a high potential for unknown buried archaeological sites to occur within the project vicinity. A portion of the Sicard Street Transition Station to Old Town Substation Segment is considered to be "culturally sensitive" by the City of San Diego.

D.4.2 Applicable Regulations, Plans and Standards

CEQA recognizes that historical resources are part of the environment and that a project that "may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (PRC 21084.1). Because historic properties designated under any municipal or county ordinance and determined significant by the State Historical Resources Commission may be eligible for the California Register of Historical Resources (CRHR) (PRC 5024.1(e)(5)), portions of the Proposed Project may be subject to the Historical Resources Guidelines of the City of San Diego Land Development Code, National City Municipal Code, City of Chula Vista Municipal Code, and San Diego County ordinances regarding cultural resources.

CEQA also requires that the lead agency determine whether the project will have a significant effect on unique archaeological resources that are not eligible for listing in the CRHR, and to avoid unique archaeological resources when feasible or mitigate any effects to less than significant levels (PRC 21083.2).

The following State public resource codes and CEQA regulations apply:

- California Environmental Quality Act: Public Resources Code Sections 5020.1, 5024.1, 21083.2, 21084.1, et seq. requires analysis of potential environmental impacts of Proposed Projects and application of feasible mitigation measures.
- **Title 14, Public Resources Code, Section 5020.1** defines several terms, including the following: (f) "DPR Form 523" means the Department of Parks and Recreation Historic Resources Inventory Form; (i) "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California; (j)"local register of historical resources" means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution; (l) "National Register of Historic Places" means the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture as authorized by the National Historic Preservation Act of 1966 (Title 16 United States Code Section 470 et seq.); and (q) "substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.
- **Title 14, Public Resources Code, Section 5024.1** establishes a California Register of Historical Resources, sets forth criteria to determine significance, defines eligible properties, and lists nomination procedures.
- **Title 14, Public Resources Code, Section 21083.2** defines "unique and non-unique archaeological resources" and states that the lead agency determines whether a project may have a significant effect on unique archaeological resources. If a potential for damage to unique archaeological resources can be demonstrated, such resources must be avoided. If avoidance is not feasible, mitigation measures shall be required. This section deals with a number of related cultural resources issues, including: excavation as mitigation; mitigation costs; time frames for excavation; and mitigation of unexpected resources.
- **Title 14, Public Resources Code, Section 21084.1** defines "historical resource" and states that a project may have a significant effect on the environment if it causes a substantial change in the significance of a historical resource.
- **Title 14, Public Resources Code, Section 5097.5** states that any unauthorized removal of archaeological resources on sites located on public lands is a misdemeanor. As used in

this section, "public lands" means lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority or public corporation, or any agency thereof.

- **Title 14, Public Resources Code, Section 5097.98** prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn, and sets penalties.
- Guidelines for the Implementation of the California Environmental Quality Act, Section 15064.5 defines "historical resource" and addresses effects on historic and prehistoric archaeological resources.
- Guidelines for the Implementation of the California Environmental Quality Act, Section 15126.4 discuss mitigation measures to minimize significant effects to cultural resources. Mitigation measures related to impacts on historical resources include data recovery through excavation when it is the only feasible mitigation available.
- **Title 14, Penal Code, Section 622.5** asserts that anyone who damages an item of archaeological or historic interest is guilty of a misdemeanor.
- California Environmental Quality Act Guidelines: California Code of Regulations, Sections 15000 et seq., Appendix G(j) defines a potentially significant environmental effect as occurring when the Proposed Project will ". . . disrupt or adversely affect . . . an archaeological site, except as part of a scientific study."

Any portions of the proposed OMPPA Transmission Project located in the City of San Diego are subject to the Historical Resources Guidelines of the City Land Development Code for preserving, avoiding, and mitigating damage to historic resources. The following City of San Diego municipal codes apply:

- Municipal Code Chapter 11, Article 3, Division 1 defines several terms including the following: "Designated historical resource" means any historical resource, important archaeological site, or traditional cultural property which is designated by the Historical Resource Board, is included in the City of San Diego Historical Resources Board Register, or is eligible for listing in the California Register of Historical Resources or the National Register of Historic Places.
- **Municipal Code Chapter 12, Article 3, Division 2** establishes procedures to identify and designate for preservation those historical resources that embody the special elements of the City's heritage.

- **Municipal Code Chapter 14, Article 3, Division 2** establishes regulations to protect, preserve, and restore the historical resources of San Diego.
- Municipal Code Chapter 14, Article 3, Division 2, Section 143.0253 requires that important archaeological sites shall be preserved in their natural state. If necessary to achieve a reasonable development area, up to 25 percent encroachment into any important archaeological site is allowed. Under specific conditions, a total encroachment of 40 percent into important archaeological sites is permitted for essential public service projects. Any encroachment into an important archaeological site shall include measures to mitigate for the partial loss of the site. Mitigation measures shall include preservation through avoidance of the remaining portion of the site and implementation of a research design and excavation program that recovers the scientific value of the portion of the site that would be lost due to encroachment.

Those portions of the proposed OMPPA Transmission Project located in unincorporated areas may also be subject to several San Diego County ordinances specifically dealing with cultural resources. The following San Diego County ordinances apply:

- San Diego County Administrative Code, Section 396.7 establishes the San Diego County Local Register of Historical Resources; defines eligible properties, sets forth criteria to determine significance, and lists nomination procedures.
- The Resource Protection Ordinance requires a resource protection study to protect "environmentally sensitive lands" including significant prehistoric and historic sites. The ordinance defines significant cultural resources and prohibits damaging such resources. The ordinance also provides exemptions for essential public facilities, which are defined as "any structure or improvement necessary for the provision of public services, which must be located in the particular location to serve its purpose and for which no less environmentally damaging location, alignment, or non-structural alternative exists."

The portions of the proposed OMPPA Transmission Project that are located within the City of National City would be subject to relevant sections of the Municipal Code, which protect cultural and historical resources. The following City of National City municipal codes apply:

• Municipal Code Chapter Title 18 Chapter 18.139 Section 18.139.010 establishes a procedure whereby properties of historical significance are identified and appropriate notice is provided in the event demolition or significant alteration or conversion is proposed

The portions of the proposed OMPPA Transmission Project located within the City of Chula Vista would be subject to policies in the City of Chula Vista's General Plan which describe preservation of cultural resources.

• **Municipal Code Title 2 Chapter 2.32 Section 2.32.030** protects finite cultural resources which provide the only record of our historic, prehistoric and natural past.

D.4.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.4.3.1 Definition and Use of Significance Criteria

CEQA states that a project that may cause a substantial adverse change in the significance of a historical resource or that may have a significant effect on a unique archaeological resource may have a significant effect on the environment. The lead agency is required to determine whether a Proposed Project may adversely affect historical resources or unique archaeological resources. CEQA Section 15064.5 states: Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR. Unique archaeological resources are defined as artifacts, objects, or sites that contain information that can answer important scientific research question, has a special and particular quality, or is directly associated with an important prehistoric or historic event or person (PRC 21083.2(g)).

Under CEQA the project would have a significant effect on the environment if it would:

- Cause a substantial adverse change in the significance of a historical resource by demolishing or materially altering the characteristics of a historical resource that justify its eligibility for inclusion in the CRHR (CCR 15064.5); or
- Cause a substantial adverse change in the significance of a unique archaeological resource by damaging the resource (CCR 15064.5; PRC 21083.2).

Significant effects on historical resources or unique archaeological resources can be eliminated by pursuing an alternative course of action or mitigated to less than significant levels. Preservation in-place is the preferred manner for mitigating impacts to archaeological resources (CCR 15126.4(b)(3)(A)). If preservation in-place is not feasible, data recovery excavation is an acceptable alternative pursuant to the provisions of CCR 15126.4(b)(3)(C).

D.4.3.2 Applicant Proposed Measures

Table D.4-2 presents the APMs proposed by SDG&E to reduce potential impacts to cultural resources from construction.

	TABLE D.4-2 APPLICANT PROPOSED MEASURES FOR CULTURAL RESOURCES
APM No.	Description
7	Prior to construction, all SDG&E, contractor, and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the Protocols and to comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures, erosion control, dust suppression, and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address: a. federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; b. the importance of these resources and the purpose and necessity of protecting them; and c. methods for protecting sensitive cultural, paleontological, and ecological resources.
12	In the construction and operation of the project, SDG&E would comply with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting air quality, water quality, wildlife and its habitat, and cultural resources.
17	Prior to construction, the boundaries of plant populations designated as sensitive by the USFWS or CDFG, cultural resources, and other resources designated sensitive by SDG&E and the resource agencies would be clearly delineated with clearly visible flagging or fencing. The flagging and fencing shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction and maintenance activities. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with APM 21, and the responsible resource agency(ies) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of the presence of any covered plant species to be removed in the work area would occur within 10 working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither the USFWS nor CDFG has removed such plant(s) within the 10 working days following the written notice, SDG&E may proceed with the work and cause a take of such plant(s), if minimization measures are not implemented.
39	To the extent feasible, where the construction of access roads would disturb sensitive features, the route of the access road would be adjusted to avoid such impacts. Examples of sensitive features include, without limitation, cultural sites, identified habitats of endangered species, and streambeds. As another alternative, construction and maintenance traffic would use existing roads or cross-country access routes (including the ROW), which avoid impacts to the sensitive feature. To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers, such as easily visible flagging. Construction routes, or other means of avoidance, must be approved by the authorized officer or landowner before use. When it is not feasible to avoid constructing access roads in sensitive habitats, SDG&E would perform three site pre-activity surveys to determine the presence or absence of endangered or threatened species, or species of special concern, in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and

	TABLE D.4-2 APPLICANT PROPOSED MEASURES FOR CULTURAL RESOURCES
	APPLICANT PROPOSED MEASURES FOR CULTURAL RESOURCES
APM No.	Description
	consult on reasonable and feasible mitigation measures for potential impacts prior to access road construction. However, these pre-activity surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21, 42, 43, and 44. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds, to a maximum length of 500 feet at any one transmission line crossing location.
	Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible to avoid cultural sites, SDG&E would consult with the appropriate federal and State Historic Preservation Officer (SHPO) and local (indigenous Native American tribes) cultural resource agencies and specialists to either develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as removal and cataloging and/or removal and relocation.
40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.
41	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high-value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see Protocol 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high-value wildlife habitats, SDG&E would perform three site surveys to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21, 42, 43, and 44. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a

	TABLE D.4-2 APPLICANT PROPOSED MEASURES FOR CULTURAL RESOURCES
APM No.	Description
	maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate federal, state SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either modify the project or develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as data recovery studies, cultural resource removal and cataloging, and/or cultural resource removal and relocation.
53	Known and potential cultural and biological resources, which may be affected by the project, would be monitored during project implementation. This would involve pedestrian surveys (i.e., Class III) to inventory and evaluate these resources along the selected route and any impacted area (e.g., access roads, substation sites, staging areas, etc.) beyond the ROW. In consultation with appropriate land managing agencies, SHPO officers, and applicable resource agencies, specific avoidance strategies and mitigation measures would be developed and implemented to avoid or mitigate identified adverse impacts on private, state, Bureau of Land Management, tribal, or other lands. The primary goal is to avoid impacts to environmental resources, and secondarily to mitigate for unavoidable impacts. These may include project modifications to avoid adverse impacts, monitoring construction activities, or data recovery studies.
63	In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie the adjacent human remains until the remains have been investigated, as outlined in Section 10564.5 of the CEQA Guidelines, the Native American Grave Protection Act and its implementing regulations, California Health and Safety Code 7050.5, and California Public Resources Code Section 5097.98.

D.4.3.3 230 kV Overhead Transmission Circuit

Ground disturbance activities during construction and future maintenance operations could impact known and undiscovered cultural resources. Construction-related ground disturbance activities, which have a potential to directly impact cultural resources, include installation of wood poles, tubular steel poles, preparation of access roads and staging areas, grading for new access roads, construction of new towers, vegetation clearing, conductoring and reconductoring activities. Potential construction-related and future maintenance operations-related impacts are described below.

Impact C-1: Construction Could Affect Known Cultural Resources

Inadvertent impacts may occur to known archeological resources within and in the vicinity of the project area during construction and during activities associated with transportation, storage, and maintenance of construction equipment and supplies. An evaluation of potential impacts to known cultural resources is provided below for each project segment containing the overhead transmission line.

Sycamore Canyon Substation to Fanita Junction

Ground disturbance within this segment involves replacement of approximately nine 138 kV two-pole wood structures, reconductoring of an existing 138 kV transmission line, replacement of two existing lattice towers with two tubular steel poles at Fanita Junction, installation of three new wood poles at Fanita Junction, and preparation of access roads and staging areas. Sites CA-SDI-9118, CA-SDI-9119, and CA-SDI-9121H have been recorded within the project area and are located outside of the construction work areas. These three sites have previously been determined not to be significant. Therefore, impacts to known cultural resources along this project segment would be less than significant (Class III) and therefore no mitigation required.

Miguel Substation to South Bay Power Plant Area

Ground disturbance activities within this segment includes installation of 63 new tubular steel poles within SDG&E's existing ROW, realignment of approximately 3,000 feet of an existing 13 kV wood pole structure line, preparation of access roads and staging areas, and grading for 4.5 acres of additional permanent access roads. One cultural resource site was recorded for this segment: CA-SDI-12,072. Site CA-SDI-12,072 is located over 800 feet from the project corridor and would not be affected by any work activities. Furthermore, this site has previously been determined not to be significant and is ineligible for nomination to the National Register. Therefore, no impacts to known cultural resources would occur along this project segment.

Sweetwater River Transition Area to Sicard Street Transition Area

Ground disturbance activities within this segment includes modifications to approximately 30 existing bridge structures to accommodate the Proposed Project. No cultural resources have been identified for this segment and therefore, no impacts to known cultural resources would occur along this project segment.

Impact C-2: Construction Could Affect Undiscovered Cultural Resources

For the Sycamore Canyon Substation to Fanita Junction Segment, and Miguel Substation to South Bay Power Plant Area and Sweetwater River to Sicard Street, the likelihood of encountering undiscovered cultural resources during construction is low due to the relatively low-density distribution pattern of previously recorded cultural sites. Although the likelihood to affect undiscovered cultural resources is low, the potential to impact undiscovered cultural resources during construction remains. As described in APM 7, SDG&E will train all construction workers regarding recognition of cultural resources. In addition to APM 7, implementation of Mitigation Measures C-2a and C-2b would reduce potentially significant impacts to undiscovered cultural resources (Impact C-2) to less than significant (Class II).

Mitigation Measure for Impact C-2, Construction Could Affect Undiscovered Cultural Resources

C-2a Prepare Cultural Resources Treatment Plan. SDG&E shall develop a Cultural Resources Treatment Plan (CRTP). The CRTP shall include procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs) and archeological high-probability areas; evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detailed reporting requirements by the Project Archeologist; curation of any cultural materials collected during the Project, and requirements to specify that archeologists and other discipline specialists meet the Professional Qualification Standards mandated by the California Office of Historic Preservation. The CRTP shall also include the training program described in APM 7 for construction workers; procedures for protection and avoidance.

Specific protective measures such as avoidance shall be defined in the CRTP to reduce potential adverse impacts on any presently undetected cultural resources to less than significant levels. The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction. The CRTP shall define construction procedures for areas near known/recorded cultural sites.

C-2b Conduct construction monitoring. Archeological monitoring shall be conducted by a qualified archeologist (i.e., member of the Register of Professional Archaeologists) familiar with the types of historic and prehistoric resources that could be encountered along the transmission line corridor. Monitoring shall take place in areas where ground-disturbing activities within 150 feet of a known cultural resource would occur within areas identified by the City of San Diego as "culturally sensitive," or at the discretion of the qualified archeologist. Monitoring locations may also include designated

archeological high-probability areas at watercourse crossings, in areas near the bay shore, and near known resources. Intermittent monitoring may occur in areas of moderate archeological sensitivity at the discretion of the principal archeologist. A Native American monitor may also be required at the discretion of the project archaeologist.

Cultural resources discovered during monitoring shall be evaluated to determine if they are historical resources or unique archaeological resources. The effect of the project on historical resources or unique archaeological resources identified by evaluation shall be determined. If the finding is determined to be historical or unique archeeological resource, and if avoidance of the resource is not feasible, the data recovery shall be performed pursuant to the CRTP (see Mitigation Measure C-2a). Any resultant archaeological collections and their records shall be curated at an appropriate San Diego County institution (i.e., San Diego County Archaeological Center).

If human remains are discovered, there shall be no further excavation or disturbance of the discovery site or any nearby area reasonably suspected to overlie adjacent human remains until the project applicant has immediately notified the County Coroner and otherwise complied with the provisions of State CEQA Guidelines Section 15064.5(e). If the remains are found to be Native American, the County Coroner shall notify the Native American Heritage Commission (Commission or NAHC) within 24 hours. The most likely descendant of the deceased Native American shall be notified by the Commission and given the chance to make recommendations for the remains. If the Commission is unable to identify the most likely descendant, or if no recommendations are made within 24 hours, remains may be reinterred with appropriate dignity elsewhere on the property in a location not subject to further subsurface disturbance. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.

Impact C-3: Future Maintenance Operations Could Affect Cultural Resources

Future maintenance operations would involve routine maintenance and inspection activities to the ROW, access and spur roads, and transmission towers. These activities would occur within the ROW on a scheduled basis or during emergency situations. Ground disturbance during future maintenance operations would include patrol of the lines, climbing inspections, and maintenance of vegetation within the ROW and around the structures. Vegetation would be cleared around all structures and the height of vegetation would be limited in the ROW. Routine maintenance activities to the transmission towers generally would occur every three to four months.

Disturbance of cultural resources is considered minimal as a result of maintenance patrols and climbing inspections because ground disturbance is not likely to occur. Vegetation clearing activities would not affect known cultural resources because the known cultural sites occur outside of the ROW or within developed/urbanized areas where vegetation clearing is not required. Therefore, less than significant impacts requiring no mitigation (Class III) associated with maintenance and inspections would occur due to the relatively low density distribution pattern of previously recorded cultural sites and because ground disturbance during future maintenance operations would be minimal.

D.4.3.4 230 kV Underground Cable

Ground disturbance associated with installation of the underground cable consist of open cut trenching and boring. Trenches would be approximately six feet wide and six feet deep. Boring and directional drilling will require larger work areas as described in *Section B* and shown in *Figure B-3, Project Maps 3, 5a and 5b.* Potential construction-related impacts to cultural resources associated with the proposed underground cable installation are described below.

Impact C-1: Construction Could Affect Known Cultural Resources

South Bay Power Plant to Sweetwater River Transition Area

Two sites have been recorded for this segment: Site CA-SDI-16,385H and CA-SDI-13073H. Both of these sites have previously been determined not to be significant. Furthermore, Site CA-SDI-16,385H is located outside of the underground alignment and would not be affected by construction activities. Therefore, impacts to known cultural resources due to installation of the underground 230 kV cable within this segment would be less than significant requiring no mitigation (Class III).

Sicard Street to Old Town Substation

Five sites: CA-SDI-36, CA-SDI-53, CA-SDI-54, CA-SDI-5,931, and CA-SDI-16,683 have been recorded along the underground alignment and have previously been determined not significant. Therefore, impacts to known cultural resources due to installation of the underground 230 kV cable would be less than significant (Class III) and therefore, no mitigation required.

Impact C-2: Construction Could Affect Undiscovered Cultural Resources

As previously mentioned, portions of the Sicard Street Transition Station to Old Town Substation Segment is considered to be "culturally sensitive" by the City of San Diego. Therefore, the potential to encounter undiscovered cultural resources during the trenching and boring activities associated with installation of the underground portion of the transmission line and directional drilling activities along this project segment is considered high. As described in APM 7, SDG&E will train all construction workers regarding recognition of cultural resources. In addition to APM 7, implementation of Mitigation Measures C-2a and C-2b would reduce potentially significant impacts to undiscovered cultural resources (Impact C-2) to less than significant (Class II).

D.4.3.5 Transition Station and Transition Cable Poles

The proposed transition station would be developed in an existing parking lot and the two transition cable poles would be developed near the South Bay Power Plant and adjacent to the south side of the Sweetwater River where no cultural resources have been identified and therefore, no impacts to known cultural sites (Impact C-1) would occur. Construction of the transition station and transition cable poles may expose previously undetected cultural resources. Implementation of APM 7 and Mitigation Measures C-2a and C-2b would reduce potentially significant impacts to undiscovered cultural resources (Impact C-2) to less than significant (Class II).

D.4.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

New structures in the Sycamore Canyon, Miguel and Old Town Substations would be developed within the existing property line and within areas previously disturbed for substation development. The work associated with substation and switch station upgrades would occur on the station sites and not within the public ROW. Because no cultural resources have been identified within the existing substation sites and all construction of proposed substation modifications and future maintenance would take place within the existing substation's fenceline, which have been previously disturbed, no impacts to known and undiscovered cultural resources (Impact C-1 and C-2) would occur.

D.4.4 Project Alternatives

D.4.4.1 SDG&E Design Option Alternatives (Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.4.1 describes the cultural resources setting along the proposed alignment. Because SDG&E design option alternatives would occur primarily in the same alignment as the Proposed

Project, the existing cultural resources conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased underground work within City of San Diego streets. The method of construction (i.e., more underground work) associated with this alternative would cause more excavation activities in city streets near commercial and industrial uses. Under this alternative, approximately 1,400 feet of additional trenching within paved roadways would be required over the Proposed Project. Due to the limited area to be disturbed by trenching as well as the fact that the additional trenching associated with this alternative would be located within paved roadways surrounded by urban development, the potential for encountering important cultural resources is considered low (Impacts C-1 and C-2). However, the potential to impact undiscovered cultural resources remains (Impact C-2). In addition to APM 7, Mitigation Measures C-2a and C-2b provided in *Section D.4.3* would reduce impacts to undiscovered cultural resources (Impact C-2) to less than significant (Class II) and therefore, no mitigation required.

Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment Design Alternatives: The cultural resource impacts for these alternative design options would be substantially the same as described in *Section D.4.3.4 and D.4.3.5* for the Proposed Project. Localized construction activities and ground disturbance would occur in the same manner as the Proposed Project (Impacts C-1 and C-2). Implementation of APM 7 and Mitigation Measures C-2a and C-2b would reduce cultural resource impacts associated with the construction of the Sicard Street Transition Cable Pole and Harbor Drive Bridge Attachment to less than significant (Class II).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Construction activities requiring ground disturbance under this alternative would be limited to SDG&E's ROW between the South Bay Power Plant Area and Sweetwater River. Two sites have been recorded for this segment as described in *Section D.4.3*. Both of these sites have previously been determined not to be historical resources or unique archaeological resources. Therefore, no impacts to known cultural resources (Impact C-1) would occur due to this alternative. Due to less ground disturbance required to construct the overhead option than the Proposed Project's trenching along this segment, potential impacts to unknown cultural resources would be reduced, however the potential to impact unknown cultural resources remains. Implementation of APM 7 and Mitigation Measures C-2a and C-2b provided in *Section D.4.3* would reduce impacts to unknown cultural resources (Impact C-2) to less than significant levels (Class II). Potential impacts due to future maintenance and operation (Impact C-3) would be unchanged from that

described in *Section D.4.3* for the Proposed Project overhead transmission line which were determined to be less than significant requiring no mitigation (Class III).

Comparison to the Proposed Project

Cultural resource impacts (C-1, C-2 and C-3) resulting from SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design alternatives would not be significantly different from the Proposed Project as ground disturbance for these design alternatives would take place primarily within the same alignment as the Proposed Project where no known cultural resources have been identified.

D.4.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.4.1 describes the cultural resources setting along the proposed alignment from the Miguel Substation to the South Bay Power Plant. Because the Transmission System Alternative would occur in the same area as the Proposed Project, the existing cultural conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Construction activities requiring ground disturbance under the Transmission System Alternative would be limited to SDG&E's ROW between the Miguel Substation and South Bay Power Plant. One site has been recorded for this segment as described in *Section D.4.3*. This recorded site has previously been determined not to be a historical resource or unique archaeological resource. Therefore, impacts to known cultural resources (Impact C-1) would be less than significant requiring no mitigation (Class III). Potential impacts to unknown cultural resources (Impact C-2) would be greater because this alternative requires more ground disturbance than the Proposed Project. The additional ground disturbance would result from the installation of new structures to support a 138 kV line and from Proctor Valley Substation to Miguel Substation. The other components of this alternative, removal of 138kV overhead transmission line and associated lattice towers and additional work at the Miguel, Proctor Valley and Los Coches Substations, are not anticipated to result in any new impacts to cultural resources because construction activities would occur in previously disturbed or developed areas.

Although greater ground disturbance would occur under this alternative, the likelihood of encountering undiscovered cultural resources during construction is low due to the relatively

low-density distribution pattern of previously recorded cultural sites. Implementation of APM 7 and Mitigation Measures C-2a and C-2b provided in Section D.4.3 would reduce impact C-2 to less than significant levels (Class II). Potential impacts due to future maintenance and operation (Impact C-3) would be unchanged from that described for the Proposed Project overhead transmission circuit, which were determined to be less than significant requiring no mitigation (Class III).

Comparison to the Proposed Project

Cultural resource impacts resulting from the Transmission System Alternative would not be significantly different from the Proposed Project. Although greater ground disturbance would occur under this alternative, the likelihood of encountering undiscovered cultural resources during construction is low due to the relatively low-density distribution pattern of previously recorded cultural sites. Therefore, impacts to cultural resources under this alternative are anticipated to be generally the same as the Proposed Project.

D.4.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts from construction activity to known or unanticipated cultural resources would occur. However, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Construction-related impacts would be expected to be similar to those described in *Section D.4.3* for new transmission and generation but could vary depending on length of transmission line and location pursued.

D.4.5 Mitigation Monitoring, Compliance and Reporting Table

Table D.4-3 shows the mitigation monitoring, compliance, and reporting program for cultural resources. The CPUC is the responsible agency for ensuring compliance with the monitoring program. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.4-3* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.4-3*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

SDG&E OMPPA Transmission Project D.4 CULTURAL RESOURCES

TABLE D.4-3 MITIGATION MONITORING PROGRAM – CULTURAL RESOURCES							
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action And Location
C-2	Construction could affect undiscovered cultural resources		APMs 7, 12, 17, 39, 49, 41, 53 and 63 apply.	See <i>Table D.4-2</i> for description of APMs. APM 7 is highlighted as it was factored into the impact analysis.			
		C-2a		Prepare Cultural Resources Treatment Plan. SDG&E shall develop a Cultural Resources Treatment Plan (CRTP). The CRTP shall include procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs) and archeological high- probability areas; evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detailed reporting requirements by the Project Archeologist; curation of any cultural materials collected during the Project, and requirements to specify that archeologists and other discipline specialists meet the Professional Qualification Standards mandated by the California Office of Historic Preservation. The CRTP shall also include the training program described in APM 7 for construction workers, procedures for protection and avoidance.Specific protective measures shall be defined in the CRTP to reduce potential adverse impacts on any presently undetected cultural resources to less than significant levels. The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction. The CRTP shall define construction procedures for areas near known/recorded cultural sites.	SDG&E to provide CRTP.	CPUC to review and approve CRTP to ensure that cultural resources are protected and properly managed.	Before ground disturbing activities to be prepared for all construction areas.

SDG&E OMPPA Transmission Project D.4 CULTURAL RESOURCES

		M	ITIGATION MO	TABLE D.4-3 ONITORING PROGRAM – CULZ	ΓURAL RESOU	JRCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action And Location
		C-2b		Conduct construction monitoring. Archeological monitoring shall be conducted by a qualified archeologist (i.e., member of the Register of Professional Archaeologists) familiar with the types of historic and prehistoric resources that could be encountered along the transmission line corridor. Monitoring shall take place in areas where ground-disturbing activities within 150 feet of a known cultural resource would occur in areas designated by the City of San Diego as "culturally sensitive," or at the discretion of the qualified archeologist. Monitoring locations may also include designated archeological high-probability areas at watercourse crossings, in areas near the bay shore, and near known resources. Intermittent monitoring may occur in areas of moderate archeological sensitivity at the discretion of the principal archeologist. A Native American monitor may also be required at the discretion of the principal archeologist.	 SDG&E to provide qualified archaeologist to monitor during ground disturbing activities. Archaeologist to provide extraction plan to SDG&E and CPUC if needed. SDG&E to contact County Coroner if human remains are found. Coroner to contact NAHC if appropriate. Monitoring shall follow City of San Diego Historical Resources Guidelines. 	 CPUC and NAHC to review extraction plan if needed. CPUC and SDG&E monitors to ensure work is suspended upon discovery of resources to ensure avoidance of all significant cultural resources. If avoidance is not possible upon conclusion of evaluations, data recovery research program exhausts potential of site to yield further important information. The qualifications of the qualified archeologist shall be approved by the CPUC. 	During ground disturbing activities in all construction areas.

SDG&E OMPPA Transmission Project D.4 CULTURAL RESOURCES

			MITIGATION MO	TABLE D.4-3 NITORING PROGRAM – CULT	ΓURAL RESOU	JRCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action And Location
				archaeological collections and their records shall be curated at an appropriate San Diego County institution (i.e., San Diego County Archaeological Center). If human remains are discovered, there shall be no further excavation or disturbance of the discovery site or any nearby area reasonably suspected to overlie adjacent human remains until the project applicant has immediately notified the County Coroner and otherwise complied with the provisions of State CEQA Guidelines Section 15064.5(e). If the remains are found to be Native American, the County Coroner shall notify the Native American Heritage Commission (Commission or NAHC) within 24 hours. The most likely descendant of the deceased Native American shall be notified by the Commission and given the chance to make recommendations for the remains. If the Commission is unable to identify the most likely descendant, or if no recommendations are made within 24 hours, remains may be reinterred with appropriate dignity elsewhere on the property in a location not subject to further subsurface disturbance. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.			
			APM 7	Prior to construction, all SDG&E, contractor, and subcontractor project personnel shall receive training regarding the appropriate work practices necessary to effectively implement the Protocols and to comply with the	SDG&E to conduct training program as described.	SDG&E to provide to the CPUC documentation demonstrating implementation of the	Prior to ground disturbing activities in all construction areas.

SDG&E OMPPA Transmission Project D.4 CULTURAL RESOURCES

	TABLE D.4-3 MITIGATION MONITORING PROGRAM – CULTURAL RESOURCES						
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action And Location
				applicable environmental laws and regulations. To assist in this effort, the training shall address: a. federal, state, local, and tribal laws regarding antiquities, including collection and removal; b. the importance of these resources and the purpose and necessity of protecting them; and c. methods for protecting sensitive cultural resources.		training program.	

D.4.6 References

- Berryman, Judy, Ph.D., RPA, Dayle Cheever, MA, RPA, Steve Harvey, MA, RPA, and Engineering-Environmental Management, Inc. July 2004. Cultural Resources Technical Report for the San Diego Gas & Electric Otay Mesa Power Purchase Agreement (OMPPA) Transmission Project, San Diego County, California.
- CPUC. 2004. Miguel-Mission 230 kV #2 Project Draft EIR.
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- SDG&E. 2004a. Proponent's Environmental Assessment (PEA) for the OMPPA Transmission Project. Submitted to the California Public Utilities Commission. March 2004.
- SDG&E. 2004c. Supplement to Application for the OMPPA Transmission Project. May 2004.
- SDG&E. 2004d. Second Supplement to Application for the OMPPA Transmission Project. July 2004.
- SDG&E 2004k. SDG&E Otay Mesa Power Purchase Agreement Transmission Project-Amended Project Description. November.

D.5 GEOLOGY, SOILS, AND PALEONTOLOGY

Section D.5.1 provides a summary of existing geological, soil, and paleontological conditions and associated geologic and seismic hazards. Applicable regulations, plans, and standards are listed in *Section D.5.2*. Potential impacts and mitigation measures for the Proposed Project are presented in *Section D.5.3*; and alternatives are described and discussed in *Section D.5.4*. Mitigation monitoring, compliance, and reporting are discussed in *Section D.5.5*.

D.5.1 Environmental Setting for the Proposed Project

This section presents a discussion of the regional topography, geology, seismicity, soils, and mineral and paleontological resources in the project area. Baseline geologic information was collected from published and unpublished geologic, seismic, and geotechnical literature covering the Proposed Project alignment and the surrounding area. This was accomplished by conducting review of SDG&E's PEA (March 2004), SDG&E's Supplemental Application No. 2 (July 2004), the Potential Fault and Seismic Impacts Underground Transmission Line Report prepared for SDG&E by Ninyo & Moore, October 2004 as well as other supporting documents submitted by SDG&E for this Project. Review of SANDAG and City of San Diego geologic maps, and other relevant documents was also performed.

D.5.1.1 Regional Topographical and Geologic Setting

The project alignment is located in the southern part of the Peninsular Ranges Geomorphic Province of southern California. This province extends from south of the U.S. – Mexico border northward to the southern mountain front of the Transverse Ranges (just north of Los Angeles) (Norris and Webb, 1990). The province is bounded on the east by the Colorado Desert province. The landscape in the eastern and central part of the project area is defined by fault-block mountains separated by alluvium-filled valleys. Wide, sand- and boulder-filled river washes cut through the mountains and across the valleys in this part of the project area. The western portions of the province are characterized by the coastal plain which consists of numerous marine and non-marine terraces, which are dissected by stream valleys.

Topography

The project alignment traverses diverse topography ranging from rugged to steep slopes between the Sycamore Canyon Substation to Fanita Junction to virtually flat adjacent to San Diego Bay. As shown in *Table D.5-1*, elevations along the proposed alignment range from approximately 550 - 1,050 feet above mean sea level (msl) between the Sycamore Canyon Substation and Fanita Junction to approximately 10 - 30 feet msl adjacent to San Diego Bay.

TABLE D.5-1 ELEVATIONS ALONG THE OMPPA TRANSMISSION PROJECT (feet above mean sea level)

Location / Elevation		Terrain/Elevation Ranges
Sycamore Canyon Substation	(400 ft)	Flat
Fanita Junction	(700 ft)	Sycamore Canyon to Fanita Junction: rugged, steep (mile-post 0 to 4) elevation ranges 550 – 1,050 ft.
Miguel Substation	(500 ft)	Gentle northeast slope
South Bay Power Plant	(20 ft)	<i>Miguel to South Bay Power Plant:</i> gentle slopes to flat coastal plain (mile-post 28 – 38) elevation ranges 50 – 600 ft
Sicard Street	(20 ft)	South Bay Power Plant to Sweetwater River to Sicard Street:flat near shoreline (mile-post 38 – 45) elevation ranges 10 – 30 ft
Old Town Substation	(50 ft)	Sicard Street to Old Town: gentle slope (mile-post 45 to 52) elevation ranges 20 -70 ft.

<u>Geology</u>

The geologic units anticipated to be encountered during construction of the Proposed Project are summarized in *Table D.5-2*.

	TABLE D.5-2 GENERAL DESCRIPTIONS AND CHARACTERISTICS OF THE GEOLOGIC FORMATIONS				
Symbol	Unit Name	Age	Description		
Af	Artificial fill	Recent	Documented or undocumented soil of variable composition and compaction.		
Qs	Shore deposits	Recent	Unconsolidated silt and clay deposits transported by currents within the bay.		
Qa	Alluvium and slope wash	Recent	Silt, sand, and gravel deposited in active or abandoned stream channels and at the base of slopes.		
Qt	Terrace deposits	Holocene	Thin layers of sand and gravel on elevated erosional surfaces.		
Qbp	Bay Point Formation	Late Pleistocene	Marine poorly consolidated fine- to medium-grained fossiliferous sandstone interfingered with non-marine silts and sands. Deposited on lower erosional bench of The San Diego Formation. Abundant shells.		
QI	Linda Vista Formation	Early Pleistocene	Marine and non-marine moderate red-brown sandstone and conglomerate. Deposited on a 10-kilometer-wide bench on San Diego Formation. Some fossils.		

	GENER		TABLE D.5-2 PTIONS AND CHARACTERISTICS EOLOGIC FORMATIONS
Symbol	Unit Name	Age	Description
Tsd	San Diego Formation	Pliocene	Generally yellow-brown, poorly consolidated sandstone and conglomerate with rare bentonite beds. Abundant fossils
То	Otay Formation (Sweetwater Formation)	Oligocene to Miocene	Poorly cemented, massive, light colored sandstone, siltstone, and claystone with bentonite interbeds. Includes fossil-rich beds.
Тр	Pomerado Conglomerate	Eocene	Uppermost member of the Poway Group. Massive cobble conglomerate with occasional interbeds and lenses of sandstone. Fossiliferous lenses.
Tmv	Mission Valley Formation	Eocene	Friable marine sandstone: light olive gray. Often fossiliferous. Interbeds of sandstone.
Tst	Stadium Conglomerate	Eocene	Lowest member of Poway Group. Massive cobble conglomerate similar to the Pomerado Conglomerate. Lenses of cross-bedded fossiliferous sandstone.
Tf	Friars Formation	Eocene	Poorly indurated non-marine and near-shore claystone and sandstone with cobble conglomerate lenses. Source of numerous recent landslides. Includes layers with significant Eocene land-mammal fossils.
Kg	Granitic Rocks	Cretaceous	Mostly dark-colored, coarse-grained granodiorite, tonolite, and gabbro. Highly weathered at most exposures. Non-fossiliferous.
KJmv	Santiago Peak Formation	Jurassic to Cretaceous	Moderately altered volcanic and sedimentary rocks. Marine invertebrate fossils have been found in sedimentary beds north of the project area.

Sources: SDG&E 2004, Kennedy, 1975; Kennedy and Siang, 1977; California Geological Survey, 2003.

Soils

A variety of soil types occur in the large, diverse area of the project area. The soil types associated with granitic rock in the project area are highly susceptible to erosion due to the large, loose grains generated by the weathering of crystalline granite. Erodible soils generally correspond to those on the hillsides and mountains where granitic bedrock is close to or at the surface (SCS, 1973). Soils with a high potential for shrink-swell generally correspond to the areas where the younger flat-lying sediments occur where weathering of the parent rock material creates clay, such as in areas of metavolcanic rocks. Soils with high potential for shrink-swell occur where young sedimentary rocks exist along the proposed alignment. Soils with moderate potential for shrink-swell occur where the project alignment crosses metamorphic rocks. The areas with sandy soils over granitic rocks of the alignment have low shrink-swell potential.

Seismicity

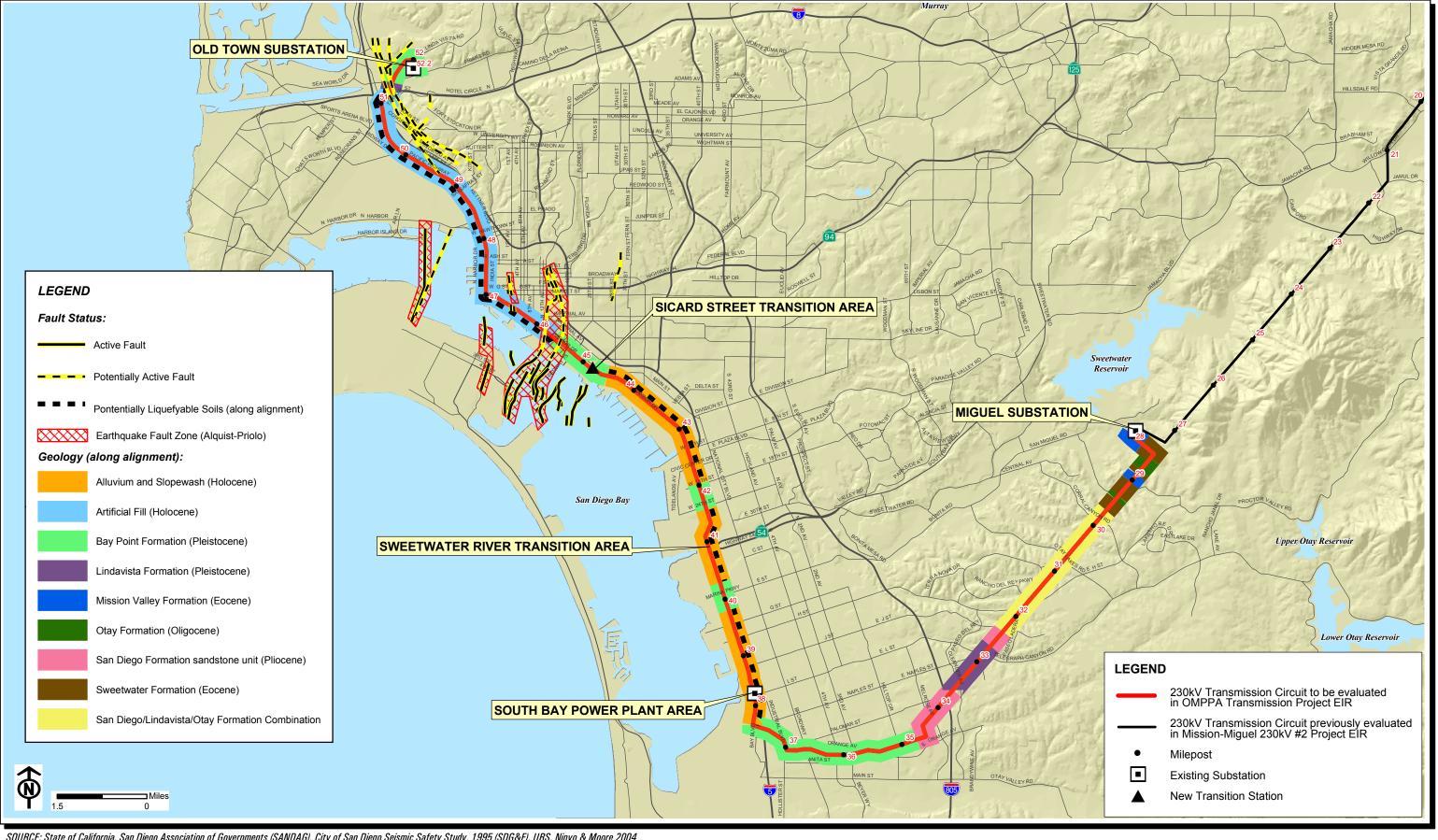
Earthquake activity, also known as seismicity, is common throughout the southern California region. Most earthquakes in this region occur along active faults. Southern California is dominated by a major tectonic structure delineated as the San Andreas Fault. The San Andreas Fault trends along a roughly northwest/southeast alignment and is located 80 miles northeast of the study area. The San Andreas Fault Zone delineates the boundary between two global tectonic plates known as the North American Plate and Pacific Plate. The Pacific Plate occupies the area west of the San Andreas Fault. Other active faults in the region include the San Jacinto Fault (50 miles NE), the Elsinore Fault (30 miles NE), the Coronado Bank Fault Zone (20 miles SW, offshore) and the Rose Canyon Fault Zone which crosses the project alignment (see *Figure D.5-1*). An active fault, as defined by the CDMG, is a fault that has exhibited "surface displacement within Holocene time" (about the last 11,000 years). The state of California has established Alquist-Priolo Special Studies Zone (A-P Zone) along and parallel to traces of active faults for the purpose of prohibiting the location of structures on the traces of such faults. As shown on *Figure D.5-1*, the project alignment crosses an established Alquist-Priolo Earthquake Fault Zone associated with the Rose Canyon Fault in the vicinity of mile-post 46.

Table D.5-3 lists several aspects of active faults in the study region, including: maximum earthquake magnitude (M); associated maximum peak site acceleration (g); and Modified Mercalli site intensity (MM) which qualifies earthquake intensities in terms of potential effects on people and structures (see *Table D.5-4*). The maximum credible peak acceleration values are based on the attenuation relationships of Campbell and Bozorgnia (1994). A maximum credible event is considered the maximum magnitude capable for a fault given its specific size, configuration and tectonic framework.

Fault Name	Distance from Fault to Project Alignment	Maximum Earthquake Magnitude (M)	Peak Horizontal Ground Acceleration (g)	Estimated Site Intensity Modified Mercalli (MM)
Elsinore – Julian Segment	30	7.1	0.41	Х
San Jacinto – San Jacinto Valley	50	6.9	0.09	VII
Rose Canyon	0	6.9	0.08	VII
San Andreas – Southern	80	7.4	0.06	VI
Coronado Bank	20	7.4	0.06	VI

TABLE D.5-3ACTIVE FAULTS IN THE STUDY AREA

Source: USGS (1980); Greensfelder 1974; Seed and Idress 1982.



SOURCE: State of California, San Diego Association of Governments (SANDAG), City of San Diego Seismic Safety Study, 1995 (SDG&E), URS, Ninyo & Moore 2004

OMPPA Transmission Project EIR Geologic Hazards Map



TABLE D.5-4THE MODIFIED MERCALLI SCALE OF EARTHQUAKE INTENSITIES

If most of these effects are observed	Then the intensity is
Earthquake shaking not felt but people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, liquids, bodies of water sway slowly, or doors swing slowly.	Ι
Effect on people: Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.	II
Effect on people: Felt by most people indoors. Some can estimate duration of shaking but many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.	III
Other effects: Hanging objects swing. Structural effects: Windows or doors rattle. Wooden walls and frames creak.	IV
 Effect on people: Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers wakened. Other effects: Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Structural effects: Doors close, open or swing. Windows rattle. 	V
 Effect on people: Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers wakened. Other effects: Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start, or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Structural effects: Weak plaster and Masonry D* crack. Windows break. Doors close, open, or swing. 	VI
 Effect on people: Felt by everyone. Many are frightened and run outdoors. People walk unsteadily. Other effects: Small church or school bells ring. Pictures thrown off walls, knicknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle. Structural effects: Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets, and architectural ornaments fall. Concrete irrigation ditches damaged. 	VII
Effect on people: Difficult to stand. Shaking noticed by auto drivers. Other effects: Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver. Structural effects: Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses move don foundation if not bolted down; loose panel walls thrown out. Decayed piling broken off.	VIII

TABLE D.5-4

	Then the
If most of these effects are observed	intensity is
Effect on people: General fright. People thrown to ground. Other effects: Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees. Structural effects: Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames cracked. Reservoirs seriously damaged. Underground pipes broken.	IX
Effect on people: General panic. Other effects: Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crate, and, in muddy areas, water fountains are formed. Structural effects: Mast masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, and embankments. Railroads bent slightly.	X
Effect on people: General panic. Other effects: Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Structural effects: General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.	XI
Effect on people: General panic. Other effects: Same as for Intensity X. Structural effects: Damage nearly total, the ultimate catastrophe. Other effects: Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.	XII
 Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces. Masonry B: Good workmanship and mortar, reinforced. Masonry C: Good workmanship and mortar, unreinforced. Masonry D: Poor workmanship and mortar and weak materials, like adobe. 	

The Rose Canyon Fault Zone is the nearest significant seismic hazard to the project. The Rose Canyon Fault Zone is comprised predominantly of right lateral strike-slip faults that extend southeast, bisecting the San Diego metropolitan region. Portions of the Rose Canyon Fault Zone in downtown areas of San Diego have been designated by the State of California as an Alquist-Priolo Earthquake Fault Zone. The Rose Canyon Fault has been characterized by the State as capable of a magnitude (Mw) 6.9 earthquake. An earthquake associated with the Rose Canyon Fault Zone could result in a Modified Mercalli intensity of VII.

D.5.1.2 Geologic Hazards

Fault Rupture

Fault rupture refers to the physical displacement of surface deposits in direct response to movement along a fault. Ground surface displacement is perhaps the most important single factor to be considered in the seismic design of electric transmission lines and underground cables crossing active faults. Other secondary effects related to fault movement, such as ground shaking, liquefaction, and landslides, are discussed below. As discussed previously and shown in *Figure D.5-1*, the proposed alignment crosses three inferred buried traces of the Rose Canyon Fault along Sherman Street between Anna Street and Morena Boulevard. South of the San Diego River, the alignment is located roughly 400 feet to 1,000 feet west of inferred fault traces for a distance of approximately two miles. The alignment crosses inferred buried fault traces near Pacific Highway and Sutherland Street and along Harbor Drive near 1st Avenue and 2nd Avenue. The alignment crosses a State of California Earthquake Fault (Alquist-Priolo) Special Study Zone along Harbor Drive from approximately 1,000 feet southeast of 8th Avenue to approximately Crosby Street (Ninyo & Moore, 2004).

Because the alignment crosses potential fault traces, there is the potential for fault rupture to occur along the alignment. Based on published estimated slip rates and return intervals for the Rose Canyon Fault, the offset expected for individual segments of the Rose Canyon Fault in low potential liquefiable areas is estimated to be on the order of three to six feet. The portions of the alignment that cross mapped faults that are considered to be of low potential for liquefaction and would thus be potentially subject to fault rupture would be along Harbor Drive near 1st and 2nd Streets and along Harbor Drive from approximately 1,000 feet southeast of 8th avenue to approximately Crosby Street. Where the alignment crosses liquefiable areas, fault rupture would likely not extend to the ground surface, but would be absorbed by the relatively loose deposits or would cause the near surface soils to liquefy (Ninyo & Moore, 2004).

Liquefaction

Liquefaction is a phenomenon in which loose, saturated, granular soil deposits lose shear strength and mobilize as a result of increased pore water pressure induced by strong ground shaking during an earthquake. Structures founded on or above potentially liquefiable soil may experience settling (both total and differential) and loss of foundation support. The factors known to influence liquefaction potential include soil type, grain size, relative density, confining pressure, depth to ground water and the intensity and duration of ground shaking. Soils most susceptible to liquefaction are saturated, loose, sandy soils and some silts. Liquefaction generally occurs in areas of high groundwater (depths of 50 feet or less). As shown in *Figure D.5-1*, such conditions occur in the project area along Anna Street, Sherman Street, and Napa Street north of

the San Diego River and for the majority of the alignment within Pacific Highway north of Market Street, and along the San Diego Bay between project alignment mile-posts 38 and 51. The potential for liquefaction and seismically induced settlement along the proposed alignment between mile-posts 38 and 51 based on the design earthquake is considered moderate to high.

Subsidence/Differential Settlement

Land subsidence due to mechanisms such as removal of groundwater, oil or gas, compaction of unconsolidated sediments, or tectonic lowering, is not documented as occurring along the project alignment. Unconsolidated or weakened geologic units along the project may be subject to differential settlement. These include areas underlain by alluvium, recent shoreline deposits, existing landslides, and highly weathered rock.

Slope Instability

Slope instability has the potential to undermine foundations and cause distortion and distress to overlying structures. Slope failures include landslides, slumps, mudflows, debris flows, block failures and rock falls. Gravitational and erosional forces that can cause a variety of modes of slope failure act continuously upon slopes. Potential hazards associated with slope instability, mudflows, debris flows and rock falls generally increase with steeper slopes and are considered to be potential hazards in the study area, particularly in areas consisting of the Friars Formation. The proposed alignment crosses steep slopes underlain by the Friars Formation between mileposts 0 and 4.

D.5.1.3 Mineral Resources

Sand and gravel deposits occur in the vicinity of mile-posts 0 to 4 where the alignment crosses several washes. No other mineral resources occur within the proposed alignment.

D.5.1.4 Paleontology

Determination of the "significance" of a fossil can only occur after a fossil has been found and identified by a qualified paleontologist. Until then, the actual significance is unknown. The most useful designation for paleontological resources in an EIR document is the "sensitivity" of a particular geologic unit. Sensitivity refers to the likelihood of finding significant fossils within a geologic unit. In California, fossils of land-dwelling vertebrates are considered significant.

The following levels of sensitivity recognize the important relationship between fossils and the geologic formations within which they are preserved.

- **High Sensitivity.** High sensitivity is assigned to geologic formations known to contain paleontological localities with rare, well-preserved, an/or critical fossil materials for stratigraphic or paleo-environmental interpretation, and fossils providing important information about the paleobiology and evolutionary history (phylogeny) of animal and plant groups. Generally speaking, highly sensitive formations are known to produce or have the potential to produce vertebrate fossil remains.
- **Moderate Sensitivity.** Moderate sensitivity is assigned to geologic formations known to contain paleontological localities with moderately preserved, common elsewhere, or stratigraphically long-ranging fossil material. The moderate sensitivity category is also applied to geologic formations that are judged to have a strong, but unproven potential for producing important fossil remains (e.g., pre-Holocene sedimentary rock units representing low to moderate energy, of marine to non-marine depositional settings).
- Low Sensitivity. Low sensitivity is assigned to geologic formations that, based on their relative youthful age and/or high energy depositional history, are judged unlikely to produce important fossil remains. Typically, low sensitivity formations may produce invertebrate fossil remains in low abundance.
- **Marginal Sensitivity.** Marginal sensitivity is assigned to geologic formations that are composed either of pyroclastic volcanic rocks or metasedimentary rocks, but which nevertheless have a limited probability for producing fossil remains from certain sedimentary lithologies at localized outcrops.
- **Zero Sensitivity.** Zero sensitivity is assigned to geologic formations that are entirely plutonic (volcanic rocks formed beneath the earth's surface) in origin and therefore have no potential for producing fossil remains.

High to moderate paleontologically sensitive geologic units along the proposed project alignment occur between mile-posts 0 and 4 in the Stadium Conglomerate and Friars Formation, along mile-posts 28 to 38 in the Otay Formation, Mission Valley Formation, and San Diego Formation and between mile-posts 45 and 52 in the Bay Point Formation, shore deposits and alluvium and slope wash.

D.5.2 Applicable Regulations, Plans and Standards

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The conservation elements and seismic safety elements of city and county general plans contain policies for the protection of geologic features and avoidance of hazards, but do not specifically address transmission line construction projects. For the segment that may be placed

underground, local grading ordinances establish detailed procedures for underground utility construction, including trench backfill, compaction, and testing. Relevant and potentially relevant statutes, regulations and policies are discussed below.

D.5.2.1 State Statutes

California Environmental Quality Act (CEQA) (Pub. Resource Code sections 21000-21177.1). CEQA was adopted in 1970 and applies to most public agency decisions to carry out, authorize, or approve projects that may have adverse environmental impacts. CEQA requires that agencies inform themselves about the environmental effects of their proposed actions, consider all relevant information, provide the public an opportunity to comment on the environmental issues, and avoid or reduce potential environmental harm whenever feasible. Relevant CEQA sections include those for protection of geological and mineral resources, protection of soil from erosion, and for the protection of paleontological resources (certain fossils found in sedimentary rocks).

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. While the Act does not specifically regulate overhead transmission lines, it does help define areas where fault rupture is most likely to occur. The Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether building setbacks should be established.

The **California Building Code** (CBC, 2001) is based on the 1997 Uniform Building Code (UBC), with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. Because the Proposed Project route lies within UBC Seismic Zone 3, provisions for design should follow the requirements of Chapter 16. Chapter 33 of the CBC contains requirements relevant to the construction of underground transmission lines. California Code of Regulations Title 24, Section 3301.2 and 3301.3 *et. seq.* contain the provisions requiring protection of adjacent properties during excavations and requires ten days written notice and access to the excavation be given to the adjacent property owners.

D.5.2.2 Local

The safety elements of general plans for the cities and the County along the proposed alignment contain policies for the avoidance of geologic hazards and/or the protection of unique geologic features. A survey of general plans along the proposed alignment indicated that most municipalities require submittal of construction and operational safety plans for proposed construction in areas of identified geologic and seismic hazards for review and approval prior to issuance of permits. County and local grading ordinances establish detailed procedures for excavation and grading required for underground construction.

D.5.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.5.3.1 Definition and Use of Significance Criteria

Geologic and soil conditions, and paleontological resources were evaluated with respect to the impacts the project may have on the local geology, as well as the impact specific geologic hazards may have upon the OMPPA Transmission Project. The significance of these impacts was determined on the basis of CEQA statutes, guidelines and appendices: thresholds of significance developed by local agencies; government codes and ordinances; and requirements stipulated by California Alquist-Priolo statutes. Significance criteria and methods of analysis were also based on standards set or expected by agencies for the evaluation of geologic hazards.

Impacts of the project on the geologic environment would be considered significant if:

- Unique geologic features or geologic features of unusual scientific value (including significant fossils) for study or interpretation would be disturbed or otherwise adversely affected by the proposed new transmission line towers and the associated construction activities.
- Known mineral and/or energy resources would be rendered inaccessible by transmission line construction.
- Geologic processes, such as landslides or erosion, could be triggered or accelerated by construction or disturbance of landforms.
- Substantial alteration of topography would be required or could occur beyond that which would result from natural erosion and deposition.

Impacts of geologic hazards on the project would also be considered significant if the following conditions existed:

- High potential for earthquake-induced groundshaking to cause liquefaction, settlement, lateral spreading and/or surface cracking along the route and probable attendant damage to the transmission line or other project structures.
- Potential for failure of construction excavations or underground borings due to the presence of loose saturated sand or soft clay.
- Presence of corrosive soils, which would damage the underground portions of the transmission line, the transmission line support structures, or foundations at the substations.

D.5.3.2 Application Proposed Measures

Table D.5-5 presents the APMs proposed SDG&E to reduce project impacts related to geology, soils, and paleontology.

	TABLE D.5-5 APPLICANT PROPOSED MEASURES – GEOLOGY, SOILS, AND PALEONTOLOGY
APM No.	Description
3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Maintenance of cut and fill slopes created by project construction activities would consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.
5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration would occur as required by the governmental agency having jurisdiction. The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts should never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor. Cleared vegetation, appropriately sized equipment (e.g., bulldozers, scrapers, backhoes, bucket-loaders, etc.) would be used during all ground disturbance and recontouring activities.

TABLE D.5-5
APPLICANT PROPOSED MEASURES – GEOLOGY, SOILS,
AND PALEONTOLOGY

APM No.	Description
6	Potential hydrologic impacts would be minimized through the use of BMPs such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures will be designed to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.
7	 Prior to construction, all SDG&E, contractor, and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the APM and to comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures, erosion control, dust suppression, and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address: a. federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; b. the importance of these resources and the purpose and necessity of protecting them; and c. methods for protecting sensitive cultural, paleontological, and ecological resources.
15	If paleontological resources are encountered, appropriate field mitigation efforts would be implemented to protect the resources. For example, if significant resources are discovered, such as vertebrate fossils, construction would be stopped in this area while SDG&E and its designated paleontologist determine the appropriate method and schedule to recover or protect the resource. When it is not feasible to avoid paleontological sites, SDG&E would consult with the appropriate federal, state, and resource agencies and specialists to either develop alternative construction techniques to avoid paleontological resources or develop appropriate mitigation measures. Appropriate mitigation field measures may include actions such as protection-in-place by covering with earthen fill, removal and cataloging, and/or removal and relocation.
38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into waterbodies.
64	During construction, SDG&E would remove boulders uphill of structures that pose potentially high risk of landslide damage to those structures and would position structures to span over potential landslide areas to the greatest extent feasible.
65	In disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils would be decompacted as necessary prior to seeding and reclamation would occur to enhance revegetation and reduce potential for erosion.

D.5.3.3 230 kV Overhead Transmission Line

Impact G-1: Ground acceleration/ground shaking, which could damage components

Strong earthquake-induced ground shaking can result in damage to aboveground structures. However, due to the distance from active faults (both onshore and offshore) that would be a source of seismic shaking, only moderate to low ground shaking is predicted for central and southern San Diego County. In the Proposed Overhead Segment Project area, peak ground acceleration could range from 0.2 to 0.3 g in an earthquake event with a ten percent probability of occurring in the next 50 years. Given that transmission lines and support structures can withstand strong ground shaking and moderate ground deformations and that only moderate to low ground shaking is predicted for the project area, impacts associated with strong seismic shaking would result in less than significant impacts (Class III) and therefore, no mitigation is required.

Impact G-2: Ground rupture, which could displace surface deposits along faults

The proposed overhead segment of the project does not cross any mapped Alquist-Priolo Earthquake Hazard Zones, nor does it cross any mapped faults of Quaternary age that may be deemed active or potentially active. Therefore, it is anticipated that there would be no impacts associated with fault ruptures.

Impact G-3: Seismically Induced Ground Failures Including Liquefaction, Lateral Spreading, and Seismic Slope Instability

Earthquake-generated ground failure, including liquefaction, lateral spreading, and differential settlement could impact the Proposed Project where tower or pole structures are located adjacent to the San Diego Bay due to the anticipated presence of unconsolidated, sandy soil and, at certain times of the year, elevated groundwater levels. Shallow landslides could also be triggered by an exceptional seismic event or even project-related excavation anywhere along the alignment. The most likely areas susceptible to seismic slope instability occur between Sycamore Canyon Substation and Fanita Junction and near the Miguel Substation where tower footings are placed on ridges and slopes on sedimentary rock. Mitigation Measure G-3a would reduce potentially significant impacts associated with seismically-induced ground failure along the alignment to less than significant levels (Class II).

Mitigation Measure for Impact G-3, Ground Failure, Liquefaction

G-3a Geotechnical Investigations for Liquefaction and Slope Instability. The Applicant shall perform design-level geotechnical investigations to evaluate the potential for liquefaction, lateral spreading, seismic slope instability, and ground-cracking hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. Appropriate measures for both overhead and underground project facilities could include construction of pile foundations, ground improvement of liquefiable zones, installation of flexible bus connections, and incorporation of slack in underground cables to allow ground deformations without damage to structures. SDG&E shall submit a report of the required investigations to the CPUC for review and approval at least 60 days before construction.

Impact G-4: Slope Instability Including Landslides, Earth Flows, and Debris Flows

Several landslides have been mapped in the project area between Sycamore Canyon Substation and Fanita Junction as well as near the Miguel Substation in the Friars Formation and Santiago Peak Formation, respectively. As described in APM 64, SDG&E will remove boulders uphill from structures that pose potential risk to structures as well as position structures to span over potential landslide areas to the extent feasible. In addition to APM 64, implementation of Mitigation Measure G-4a would reduce potentially significant impacts associated with slope instability to less than significant levels (Class II).

Mitigation Measure for Impact G-4, Landslides, Earth Flows, and Debris Flows

G-4a Geotechnical Surveys for Landslides. The Applicant shall perform design-level geotechnical surveys to evaluate the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities. Based on these surveys, approved project facilities shall be located away from very steep hillsides, debris flow source areas, the mouths of steep sidehill drainages, and the mouths of canyons that drain steep terrain. A report documenting these surveys shall be submitted to the CPUC for review and approval at least 60 days before construction.

Impact G-5: Soils Which Could Damage Foundations or Have High Erosion Potential

The proposed overhead alignment area contains areas of expansive soils and moderately erodible soils, with small areas of soils rated as high or low for erodibility. Construction and maintenance of the overhead line could trigger or accelerate erosion, especially in the small areas rated as high. In addition, potentially corrosive soils in the Project area could impact the chemical stability of concrete and uncoated steel used in support structures.

As described in APMs 3, 5, and 65, the Project includes measures to reduce soil erosion. In addition to these APMs, implementation of Mitigation Measures G-5a and G-5b would reduce potentially significant impacts associated with potentially corrosive or unstable soils to less than significant (Class II).

Mitigation Measures for Impact G-5 Soils

- **G-5a** Foundation in unstable slopes or erodible soils. A geologist and geotechnical engineer shall evaluate the placement of towers on mesas, ridges, slopes, spurs, and in or near active streambeds. Their analyses shall describe the geologic stability and make recommendations for the best foundation type and depth for the local conditions. A report documenting the analysis and recommendations shall be submitted to the CPUC for review and approval at least 60 days prior to construction.
- **G-5b** Corrosivity testing shall be performed on a site-specific basis for each support structure and substation to be located within areas mapped as having high potential for corrosive soils by the U.S. Department of Agriculture (USDA). Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. Study results and proposed solutions shall be provided to the CPUC for review and approval at least 60 days before construction.

Impact G-6: Mineral Resources

The proposed overhead transmission line would be located within an established right-of-way in which quarrying operations do not presently occur. Future development of sand, gravel, or rock quarries would be compatible with the Proposed Project. It is anticipated that the project would have no impact on mineral resource availability.

Impact G-7: Construction Activities May Destroy Paleontologic Resources

Fossils are known to occur in the Tertiary sediments in the project area. The potentially sensitive units include the Stadium conglomerate group and the Friars Formation between mile-posts 0 to 4 and 28 to 38 within the project alignment. The age of the geologic units, and the fact that they are primarily terrestrial deposits indicate that there is a likelihood that significant fossils could be found during excavation for new tower footings in several locations along the project route. As described in APM 15, the project includes paleontological monitoring during grading and excavation. In addition to APM 15, implementation of Mitigation Measure G-7a would ensure that potential impacts to paleontological resources would be less than significant (Class II).

Mitigation Measure for Impact G-7, Paleontological Resources

G-7a A paleontologist or paleontological monitor shall be onsite to inspect for fossils during excavation activities at or below six feet within the potentially sensitive units including the Stadium Conglomerate Group and Friars Formation. In the event that fossils are encountered, the paleontologist 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.

Fossil remains will be cleaned, sorted, repaired, catalogued, and then stored in a local scientific institution that houses paleontological collections. The qualified paleontologist will be responsible for preparation of fossils to a point of identification, and submittal of a letter of acceptance from a local qualified curation facility. Within 90 days of completion of the excavation phase of the project, the paleontologist shall provide to the CPUC a report summarizing the monitoring results for review and approval. The monitoring results report shall include appropriate graphics summarizing the results (even if negative), analyses, and conclusions of the above monitoring program. Any discovered fossil sites shall be recorded at the San Diego Natural History Museum.

D.5.3.4 230 kV Underground Cable

Soil liquefaction is considered a potential seismic hazard along the entire underground cable alignment (South Bay Power Plant Area to Sweetwater River Transition Area and Sicard Street Transition Area to Old Town Substation). The proposed underground cable portion of the project between Sicard Street to SDG&E's Old Town Substation also crosses potentially active and active fault traces associated with the Rose Canyon Fault Zone designated as an Alquist-Priolo special studies zone. Alquist-Priolo Zones were originally established to prevent structures from being located directly on a fault. The Rose Canyon Fault Zone is considered a

significant seismic hazard to the entire San Diego Metropolitan area. Underground facilities are generally not subject to direct effects of shaking (Impact G-1) because they are confined by overlying soils. However, given the anticipated maximum fault displacement described in *Section D.5.1.2*, the integrity of the transmission cable could be compromised by potential differential settlements associated with liquefaction as well as fault rupture. Implementation of Mitigation Measures G-2a and G-3a would reduce potentially significant impacts associated with ground rupture (Impact G-2) and ground failures (Impact G-3) to less than significant (Class II).

Mitigation Measure for Impact G-2, Ground Rupture

G-2a Minimize Project Structures within Active Fault Zone. Any crossing of an active fault shall be made as close to perpendicular to the fault as possible to make the segment cross the shortest distance within an active fault zone. For underground crossings of active or potentially active fault traces, the cable vaults on either side of the fault shall be oversized, leaving as much slack as possible in the cables. The underground cable shall be installed in the shortest feasible segments, with splice vaults and manholes located as close as possible outside of the fault zone in order to minimize the area where post-earthquake repairs may be required. A rebar reinforcement duct bank design that will increase the ductility of the duct bank at key locations shall also be used. Adequate supplies of spare cable sections shall be maintained by SDG&E for rapid repair after an earthquake-caused failure. For aboveground installations such as transition stations, SDG&E shall follow standard design codes for facilities in seismic zones.

The underground portion of the project would primarily take place in previously graded areas associated with SDG&E's existing ROW and existing City of San Diego roadways; therefore, no impacts due to landslides, earth flows and debris flows (Impact G-4); or to mineral resources (Impact G-6) would occur. Impact G-5 (soils which could damage components) would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure G-5a and G-5b. Implementation of Mitigation Measure G-7a would ensure that potential impacts to paleontological resources between mile-posts 45 and 52 would be less than significant (Class II).

D.5.3.5 Transition Station

The proposed transition station is located within the vicinity of potentially active and active fault traces associated with the Rose Canyon Fault Zone. It is likely that the project facilities associated with the transition station would be subjected to at least one moderate or larger earthquake occurring close enough to produce strong ground shaking in the project area. Implementation of Mitigation Measure G-1a, which requires incorporation of standard

engineering practices as part of the project to ensure that people or structures are not exposed to hazards associated with strong seismic ground shaking, would reduce potential impacts associated with ground shaking (Impact G-1a) to less than significant (Class II).

Mitigation Measure for Impact G-1, Ground Acceleration and Shaking

G-1a Reduce Effects of Ground shaking. The Applicant shall perform design-level geotechnical investigations including site-specific seismic analyses to evaluate the peak ground accelerations for design of project components. The Applicant shall follow the Institute of Electrical and Electronics Engineers (IEEE) 693 "Recommended Practices for Seismic Design of Substations," which has specific requirements to mitigate the types of damage that 230 kV equipment at substations have been subjected to in the past. These design guidelines shall be implemented during construction of substation modifications and transition station construction. Substation and transition station control buildings shall be designed in accordance with the Uniform Building Code for sites in Seismic Zone 4 with near-field factors. Compliance with this measure shall be documented and provided to the CPUC at least 60 days before construction by submittal of reports describing the potential peak ground accelerations expected for design level earthquake and a description of how the design will accommodate this anticipated motion.

Ground rupture (Impact G-2) would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure G-2a. The Transition Station would be developed in a previously graded area associated with an existing parking lot; therefore, no impacts due to landslides, earth flows and debris flows (Impact G-4); or to mineral resources (Impact G-5) would occur. Impact G-5 (soils which could damage components) would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure G-5a and G-5b. Implementation of Mitigation Measure G-7a would ensure that potential impacts to Paleontological resources would be less than significant (Class II).

D.5.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

Some types of substation equipment are very susceptible to damage from earthquakes; however, the existing Sycamore Canyon, Miguel and Old Town substations have been constructed with engineering and design standards for seismicity. These substations would be modified to accommodate the new 230 kV line. Seismic shaking (Impact G-1) could have an impact on these modifications. Mitigation Measure G-1a would reduce impacts to proposed substation modifications associated with seismic shaking to less than significant levels (Class II).

Damage resulting from fault rupture (Impact G-2) occurs only where structures are located astride fault traces that move. Faults classified as either active or potentially active by the State have not been identified onsite or in the immediate vicinity of the Sycamore Canyon or Miguel Substations. These existing substations are not located within a designated active earthquake fault zone where a site-specific fault investigation is required, and the modifications to these existing substations would take place within the existing substation sites. Therefore, no impacts are anticipated due to ground rupture to proposed substation modifications at the Sycamore Canyon and Miguel Substations. However, as shown in *Figure D.5-1*, the Old Town Substation is located within the vicinity of potentially active fault traces associated with the Rose Canyon Fault Zone. It is likely that the proposed modifications to the Old Town Substation would be subjected to at least one moderate or larger earthquake occurring close enough to produce strong ground shaking in the project area. Implementation of Mitigation Measure G-1a, which requires incorporation of standard engineering practices as part of the project to ensure that people or structures are not exposed to hazards associated with strong seismic ground shaking would reduce potential impacts associated with ground shaking (Impact G-1a) to less than significant (Class II).

Proposed modifications will be located within existing substation boundaries which have been previously graded and engineered to support substation equipment. Therefore, no impacts due to liquefaction (Impact G-3), landslide or unstable slope potential (Impact G-4), unstable soils or erosion (Impact G-5), mineral resources (Impact G-6) or paleontological resources (Impact G-7) would occur.

D.5.4 Project Alternatives

D.5.4.1 SDG&E Design Option Alternatives (*Pacific Highway Bridge Attachment,* Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.5.1 describes the geologic setting of the region. Because SDG&E's design option alternatives would occur in the same geological area as the Proposed Project, the existing geological conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased

trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. Like the Proposed Project, the alignment associated with the Pacific Highway Bridge Attachment crosses inferred buried traces of the Rose Canyon Fault south of the San Diego River and is within an area of high liquefaction potential (Ninyo & Moore, October 2004). The geological impacts associated with this alignment are nearly identical to those associated with the proposed project as described in Section D.5.3.4. Implementation of Mitigation Measures G-2a and G-3a would reduce potentially significant impacts associated with ground rupture (Impact G-2) and ground failure (Impact G-3) to less than significant (Class II). Like the Proposed Project, the underground portion of the Project would take place in previously graded areas associated with existing City of San Diego roadways; therefore, no impacts due to landslides, earth flows and debris flows (Impact G-4); or to mineral resources (Impact G-6) would occur. Impact G-5 (soils which could damage components) would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure G-5a and G-5b. Implementation of Mitigation Measure G-7a would ensure that potential impacts to paleontological resources would be less than significant (Class II).

Harbor Drive Bridge Attachment Design Alternative: The Harbor Drive Bridge Attachment Design Alternative is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. Because this alternative entails only the attachment of the proposed 230 kV cable to the existing Harbor Drive Bridge, no impacts due to geologic hazards or to geologic resources would occur due to implementation of this alternative.

Sicard Street Transition Cable Pole Design Alternative: The geologic impacts for this alternative design option would not be significantly different from the Proposed Project. Localized geologic hazards (ground rupture Impact G-2 and ground failure Impact G-3) would occur in the same manner as described in *Section D.5.3.5* for the Proposed Transition Station. Implementation of Mitigation Measures G-2a and G-3a would reduce potentially significant geologic impacts (G-1 and G-2) associated with the construction of the Sicard Street Transition Cable Pole to less than significant (Class II).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative primarily consists of minor modifications to existing structures that are assumed to have been designed and built to withstand geologic hazards, geologic impacts associated with seismic shaking (Impact G-1), ground rupture (Impact G-2), seismically-induced ground failure including liquefaction (Impact G-3), slope instability (Impact G-4), erosion (Impact G-5), mineral resources (Impact G-6) and paleontological resources (Impact G-7) would be less than significant (Class III) and therefore, no mitigation is required.

Comparison to the Proposed Project

Geologic impacts resulting from the construction of SDG&E's Pacific Highway Bridge Attachment and Sicard Street Transition Cable Pole design alternatives would not be significantly different from the Proposed Project. Geologic impacts resulting from construction of SDG&E's Harbor Drive Bridge Attachment Design Alternative would decrease from Class II requiring mitigation to Class III no mitigation required, due to the elimination of the proposed boring under the Harbor Drive Bridge. Geologic impacts associated with the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative would decrease from (Class II) requiring mitigation, to less than significant, no mitigation is required (Class III).

D.5.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.5.1 describes the geologic characteristics of the region. Because this alternative would occur in the same geologic area as the Proposed Project, the existing geological conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

The Transmission System Alternative would be located in the existing SDG&E's ROW and would be subject to the same geologic conditions as the Proposed Project. Due to the distance from active faults (both onshore and offshore) that would be a source of seismic shaking, only moderate to low ground shaking is predicted. Because transmission lines and support structures can withstand strong ground shaking and moderate ground deformations and only moderate to low ground shaking is predicted for the study area, impacts associated with strong seismic shaking (Impact G-1) would be less than significant impact (Class III). Additionally, this alternative would not cross any mapped Alquist-Priolo Earthquake Hazard Zones or mapped faults of Quaternary age that may be deemed active or potentially active. Therefore, it is anticipated that there would be no impacts associated with fault ruptures (Impact G-2).

Localized geologic hazards (ground failure Impact G-3 and slope instability Impact G-4) could occur in the same manner as described in *Section D.5.3.4* and *D.5.3.5* for the Proposed Project. Implementation of Mitigation Measures G-3a and G-4a would reduce potentially significant geologic impacts (Impacts G-3 and G-4) associated with the construction of the Transmission System Alternative to less than significant (Class II).

Construction and maintenance of the overhead line could trigger or accelerate erosion, especially in the small areas rated as high for erodibility. In addition, potentially corrosive soils in the study area could impact the chemical stability of concrete and uncoated steel used in support structures. APMs 3, 5, and 65, as well as Mitigation Measures G-5a and G-5b, would reduce potentially significant impacts associated with potentially corrosive or unstable soils to less than significant (Class II).

Geologic impacts to mineral resources (Impact G-6) would be similar to the Proposed Project, which was determined to be less than significant (Class III). Geologic impacts to paleontologic resources have the potential to occur due to the likelihood that significant fossils could be found during excavation for new tower footings in several locations along the alternative route. With implementation of APM 15 (paleontological monitoring during grading and excavation), as well as Mitigation Measure G-7a, potential impacts to paleontological resources would be less than significant (Class II).

Comparison to the Proposed Project

Geologic impacts resulting from the construction of the Transmission System Alternative would not be significantly different from the Proposed Project, as the majority of the new structures proposed under this alternative would be the same as those proposed under the OMPPA Transmission Project. Additional transmission structures proposed under this alternative would be placed between the Proctor Valley Substation and Miguel Substation within the same alignment as the Proposed Project and therefore subject to the same geologic, soils and paleontological impacts as the Proposed Project.

D.5.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Pursuit of such transmission and power generation options by SDG&E would result in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.5.3* for new transmission and generation, but could vary depending on length of transmission line and location pursued.

D.5.5 Mitigation Monitoring, Compliance and Report Table

Table D.5-6 shows the mitigation monitoring, compliance, and reporting program for geology, soils and paleontology. The CPUC is responsible for ensuring compliance with the provisions of the monitoring program. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.5-6* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.5-6*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

	TABLE D.5-6 MITIGATION MONITORING PROGRAM – GEOLOGY, SOILS, PALEONTOLOGY								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
G-1	Ground acceleration/ ground shaking, which could damage components	G-1a		Reduce Effects of Ground shaking. The Applicant shall perform design-level geotechnical investigations including site-specific seismic analyses to evaluate the peak ground accelerations for design of project components. The Applicant shall follow the Institute of Electrical and Electronics Engineers (IEEE) 693 "Recommended Practices for Seismic Design of Substations," which has specific requirements to mitigate the types of damage that 230 kV equipment at substations have been subjected to in the past. These design guidelines shall be implemented during construction of substation construction. Substation and transition station construction. Substation and transition station control buildings shall be designed in accordance with the Uniform Building Code for sites in Seismic Zone 4 with near-field factors. Compliance with this measure shall be documented and provided to the CPUC at least 60 days before construction by submittal of reports describing the potential peak ground accelerations expected for design level earthquake and a description of how the design will accommodate this anticipated motion.	SDG&E to implement measures as defined and provide copies of geotechnical evaluations to the CPUC and local planning agencies.	CPUC to verify that design has incorporated specific conditions to remediate impacts caused by ground shaking.	Prior to construction of new transition cable poles, transition station and substation modifications.		
G-2	Ground rupture, which could displace surface deposits along faults	G-2a		Minimize Project Structures within Active Fault Zone. Any crossing of an active fault shall be made as close to perpendicular to the fault as possible to make the segment cross the shortest distance within an active fault zone. For underground crossings of active or potentially active fault traces, the cable vaults on either side of the fault shall be oversized, leaving as much slack as possible in the	SDG&E to implement measures as defined and provide copies of geotechnical evaluations to the CPUC and local planning agencies.	CPUC to verify that design has incorporated specific conditions to remediate impacts caused by ground rupture.	Prior to construction of underground cable within the vicinity of the Rose Canyon Fault and other areas deemed necessary by the project's geotechnical engineer.		

SDG&E OMPPA Transmission Project D.5 GEOLOGY, SOILS AND PALEONTOLOGY

	TABLE D.5-6 MITIGATION MONITORING PROGRAM – GEOLOGY, SOILS, PALEONTOLOGY									
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				cables. The underground cable shall be installed in the shortest feasible segments, with splice vaults and manholes located as close as possible outside of the fault zone in order to minimize the area where post- earthquake repairs may be required. A rebar reinforcement duct bank design that will increase the ductility of the duct bank at key locations shall also be used. Adequate supplies of spare cable sections shall be maintained by SDG&E for rapid repair after an earthquake-caused failure. For aboveground installations such as transition stations, SDG&E shall follow standard design codes for facilities in seismic zones.						
G-3	Seismically induced ground failures including liquefaction, lateral spreading, and seismic slope instability	G-3a		Geotechnical Investigations for Liquefaction and Slope Instability. The Applicant shall perform design-level geotechnical investigations to evaluate the potential for liquefaction, lateral spreading, seismic slope instability, and ground-cracking hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. Appropriate measures for both overhead and underground project facilities could include construction of pile foundations, ground improvement of liquefiable zones, installation of flexible bus connections, and incorporation of slack in underground cables to allow ground deformations without damage to structures. SDG&E shall submit a report of	SDG&E to implement measures as defined and provide copies of geotechnical evaluations to the CPUC and local planning agencies.	CPUC to verify that design has incorporated specific conditions to remediate impacts caused by ground failures including liquefaction.	Prior to construction along the San Diego Bayfront and other areas deemed necessary by the geotechnical engineer.			

SDG&E OMPPA Transmission Project D.5 GEOLOGY, SOILS AND PALEONTOLOGY

	TABLE D.5-6 MITIGATION MONITORING PROGRAM – GEOLOGY, SOILS, PALEONTOLOGY								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				the required investigations to the CPUC for review and approval at least 60 days before construction.					
G-4	Slope instability including landslides, earth flows, and debris flows	G-4a	64	See Table D.5-5 for description of APM. Geotechnical Surveys for Landslides. The Applicant shall perform design-level geotechnical surveys to evaluate the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities. Based on these surveys, approved project facilities shall be located away from very steep hillsides, debris flow source areas, the mouths of steep sidehill drainages, and the mouths of canyons that drain steep terrain. A report documenting these surveys shall be submitted to the CPUC for review and approval at least 60 days before construction.	SDG&E to implement measures as defined and provide copies of geotechnical evaluations to the CPUC and local planning agencies.	CPUC to verify that design has incorporated specific conditions to remediate tower or offsite damage due to failure of unstable slopes.	Prior to construction of new tower foundations.		
G-5	Soils which could damage foundations or have high erosion potential	G-5a		Foundation in unstable slopes or erodible soils. A geologist and geotechnical engineer shall evaluate the placement of towers on mesas, ridges, slopes, spurs, and in or near active streambeds. Their analyses shall describe the geologic stability and make recommendations for the best foundation type and depth for the local conditions. A report documenting the analysis and recommendations shall be submitted to the CPUC for review and approval at least 60 days prior to construction.	SDG&E to implement measures as defined and provide copies of geotechnical evaluations to the CPUC and local planning agencies.	CPUC to verify that design has incorporated specific conditions to remediate erosion and excessive erosion.	Prior to construction of new tower foundations.		
		G-5b		Corrosivity testing shall be performed on a site-specific basis for each support structure and substation to be located within areas	SDG&E to implement measures as	CPUC to verify that design has incorporated specific conditions to	Prior to construction of new tower foundations, transition station, transition cable poles		

SDG&E OMPPA Transmission Project D.5 GEOLOGY, SOILS AND PALEONTOLOGY

	TABLE D.5-6 MITIGATION MONITORING PROGRAM – GEOLOGY, SOILS, PALEONTOLOGY								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				mapped as having high potential for corrosive soils by the U.S. Department of Agriculture (USDA). Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion- resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. Study results and proposed solutions shall be provided to the CPUC for review and approval at least 60 days before construction.	defined.	remediate for damage due to corrosive soils.	and substation modifications.		
			APMs 3, 5, 6, 7, 38 and 65 (see <i>Table D.5-5</i> for description of APMs) apply. The following APMs are highlighted as they were factored into the impact analysis.						
			APM-3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix shall be done on slopes.	SDG&E to implement measures as defined.	CPUC to verify that design has incorporated specific conditions to minimize disturbance and erosion.	Prior to construction in all construction areas.		

SDG&E OMPPA Transmission Project D.5 GEOLOGY, SOILS AND PALEONTOLOGY

	TABLE D.5-6 MITIGATION MONITORING PROGRAM – GEOLOGY, SOILS, PALEONTOLOGY								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
			APM-5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration shall occur as required by the governmental agency having jurisdiction. The method of restoration normally shall consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts shall never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor. Cleared vegetation shall be hauled off-site to a permitted disposal location.	SDG&E to implement measures as defined.	CPUC to inspect periodically to ensure that disturbance and erosion are minimized.	During construction of new overhead transmission line.		
			APM-65	In disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils shall be decompacted as necessary prior to seeding and reclamation shall occur to enhance revegetation and reduce potential for erosion.	SDG&E to implement measures as defined.	CPUC to inspect periodically to ensure disturbance and erosion are minimized.	During construction in all work areas.		
G-7	Construction activities may destroy Paleontologic resources	G-7a	15	See Table D.5-5 for description of APM. A paleontologist or paleontological monitor shall be onsite to inspect for fossils during excavation activities at or below six feet within the potentially sensitive units including the Stadium Conglomerate Group and Friars Formation. In the event that fossils are	SDG&E to implement measures as defined.	CPUC to inspect periodically to prevent destruction of non- renewable Paleontologic resources.	During construction in all areas where there is a possibility or certainty of encountering potentially fossil-bearing strata (mainly between mile-posts 0 to 4 and 28 to 38 within the project alignment).		

SDG&E OMPPA Transmission Project D.5 GEOLOGY, SOILS AND PALEONTOLOGY

	TABLE D.5-6 MITIGATION MONITORING PROGRAM – GEOLOGY, SOILS, PALEONTOLOGY								
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				encountered, the paleontologist 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. Fossil remains will be cleaned, sorted repaired, catalogued, and then stored in a local scientific institution that houses paleontological collections. The qualified paleontologist will be responsible for preparation of fossils to a point of identification, and submittal of a letter of acceptance from a local qualified curation facility. Within 90 days of completion of the excavation phase of the project, the paleontologist shall provide to the CPUC a report summarizing the monitoring results for review and approval. The monitoring results report shall include appropriate graphics summarizing the results (even if negative), analyses, and conclusions of the above monitoring program. Any discovered fossil sites shall be recorded at the San Diego Natural History Museum.		CPUC to review and approve monitoring results report that provides the fossils found and their significance.			

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

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D.6 HYDROLOGY AND WATER QUALITY

Section D.6.1 provides a summary of existing hydrology and water quality conditions present along the alignment of SDG&E's proposed OMPPA Transmission Project. Applicable regulations, plans, and standards are listed in Section D.6.2. Potential impacts and mitigation measures for the Proposed Project are presented in Section D.6.3; and alternatives are described and discussed in Section D.6.4. Mitigation monitoring, compliance, and reporting are discussed in Section D.6.5.

D.6.1 Environmental Setting for the Proposed Project

This section presents a discussion of surface water, drainage, flooding, surface water quality and groundwater resources in the project area. Baseline hydrologic conditions in the project area were collected through field visits to the project area creeks and watersheds, reviewing prior studies regarding the project area including SDG&E's PEA (March 2004), SDG&E's Supplemental Application No. 2 (July 2004), submitted by SDG&E for this project, and by obtaining maps, aerial photos and other relevant documents from local city, regional, county, and state water agencies.

D.6.1.1 General Setting

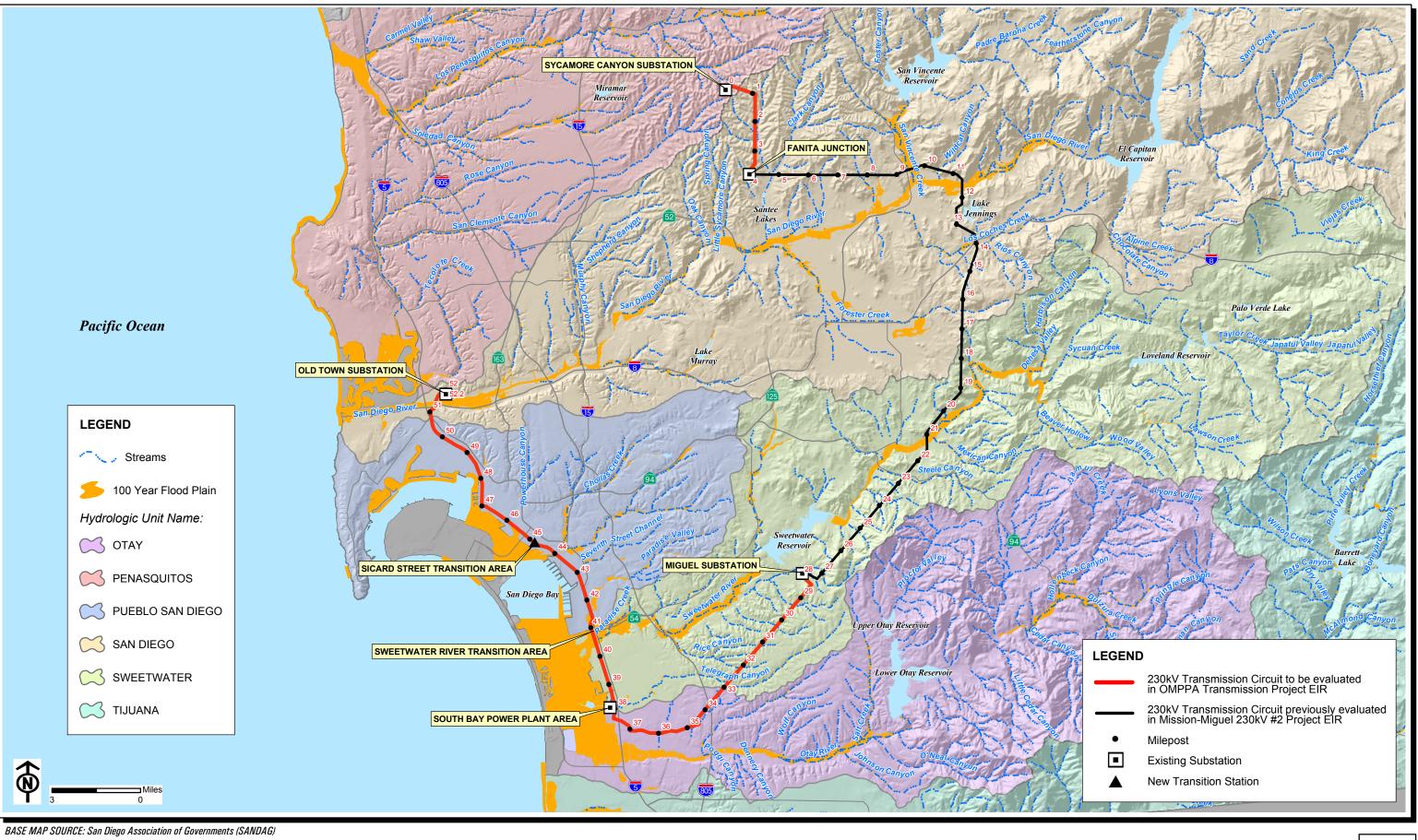
The project alignment is located within the San Diego Basin. Average annual rainfall within the project area ranges form 10 to 13 inches per year with 85 percent of all precipitation falling between November and March (Western Regional Climate Center 2003).

As shown in *Figure D.6-1*, the project alignment crosses the Los Penasquitos, San Diego, Sweetwater, Otay, and Pueblo San Diego watersheds. The hydrologic conditions along the project alignment vary from rugged terrain with steep valleys and ravines between the Sycamore Canyon Substation and Fanita Junction to highly urbanized areas between South Bay Power Plant and the Old Town Substation where local hydrology and drainage patterns have been significantly altered.

D.6.1.2 Surface Water

Rivers and Streams

Figure D.6-1 illustrates and *Table D.6-1* lists the principal named intermittent and ephemeral streams within the study area and provides the location that each stream crosses the project alignment. As shown in *Figure D.6-1*, the project alignment crosses over 20 rivers and creeks including the San Diego River (mile-post 51.3), Sweetwater River (mile-post 40.9), Sycamore



OMPPA Transmission Project EIR **Hydrology Map**



Canyon Creek (mile-posts 2.1 - 3.1), Paradise Creek (mile-post 41.6), and the Chollas Creek (mile-post 43.9).

Segment	Watershed	Waterbodies Crossed	Approximate Mile-post
Sycamore Canyon to	Los Penasquitos	None	
Fanita Junction	San Diego	Unnamed tributary to West Sycamore Canyon Creek (2)	0.8 and 1.4
		Unnamed tributary to West Sycamore Canyon Creek	2.4
		Unnamed tributary to West Sycamore Canyon Creek	2.7
		Unnamed tributary to West Sycamore Canyon Creek	3.1
		Unnamed drainage	3.6
Miguel Substation to	Sweetwater	Unnamed tributary to Sweetwater River	29.4
South Bay Power		Long Canyon Creek	30.3
Plant Area		Unnamed tributary to Long Canyon Creek	30.6
		Rice Canyon Creek	31.2
		Unnamed tributary to Rice Canyon Creek	31.7
		Unnamed tributary to Rice Canyon Creek	32.2
		Telegraph Canyon Creek	33.8
	Otay	Unnamed drainage (3)	33.3, 34.6, and 34.8
		Unnamed drainage	36.0
		Telegraph Canyon Creek	38.2
South Bay Power	Otay	Telegraph Canyon Creek	38.4
Plant Area to	Sweetwater	Tidal influx south of J Street	38.7
Sweetwater River Transition Area		Unnamed tributary to Sweetwater Marsh	40.6
Sweetwater River	Sweetwater	Sweetwater River	40.9
Transition Area to		Unnamed tributary to Sweetwater Marsh	41.2
Sicard Street Transition Area	Pueblo	Paradise Creek	41.6
		Seventh Street Channel	
		Chollas Creek Channel	43.9
Sicard Street	Pueblo San Diego	None	
Transition Area to Old Town Substation	San Diego	San Diego River	51.3

TABLE D.6-1WATERSHEDS AND WATERBODIES SPANNED BY THE PROJECT

San Diego Bay

As shown in *Figure D.6-1* and listed in *Table D.6-1*, the project alignment in the vicinity of milepost 38.7 between South Bay Power Plant and the Sicard Street Transition area crosses tidal influx areas associated with the San Diego Bay.

D.6.1.3 Groundwater

Groundwater in the project area is from two major sources, the Sweetwater Valley Groundwater Basin and the San Diego Groundwater Formation. The flow and migration of groundwater in the project area is generally east to west. The San Diego Formation is thought to extend roughly north from the international border with Mexico to the San Diego River and Mission Bay, and west from approximately Interstate 805 (south of Interstate 8) to the San Diego Bay and the Pacific Ocean to the City of San Diego. The San Diego Formation is believed to be at least 1,000 feet thick. Most of this volume, however, cannot be drained without including land subsidence and/or eventually causing sea water intrusion (San Diego County Water Authority, 2003).

D.6.1.4 Water Quality

Within the San Diego River watershed, concerns with water quality can be attributed to increased levels of coliform bacteria, total dissolved solids (TDS), nutrients, petroleum chemicals, toxics, and trash. The source of these contaminants is urban runoff, agricultural runoff, mining operations, sewage spills, and sand and gravel mining. The major water quality constituents of concern for the Sweetwater watershed are coliform bacterial, trace metals and other toxics whose source is predominantly from agricultural and urban runoff (San Diego Board of Supervisors, 2003).

D.6.1.5 Floodplains

As illustrated in *Figure D.6-1*, the project alignment between the Sycamore Canyon Substation and Fanita Junction does not cross a 100-year flood zone. Between the Miguel Substation and the Old Town Substation, the alignment crosses the 100-year flood zones of the San Diego River, Sweetwater River, Paradise Creek, Chollas Creek, and San Diego Bay as delineated by the Federal Emergency Management Agency (FEMA) as Flood Hazard Areas.

D.6.1.6 Dam Failure Inundation Area

To assist local jurisdictions in developing evacuation plans for possible inundation areas below dams, the State Office of Emergency Services and the Department of Water Resources (DWR) have identified areas of potential inundation in the event of dam failures throughout California.

These agencies have also estimated when flood waters would arrive at downstream locations should failure of a dam occur. Projected inundation limits are approximate and assume severe hypothetical failures, thus showing all potential flooded areas in the improbable occurrence of failure. The project alignment crosses the inundation zone of the El Capital Reservoir, Sweetwater Reservoir and Chollas Heights Reservoir. Should dams fail at either of these reservoirs, the project alignment in the vicinity of South Bay Power Plant to the Old Town Substation would be within the predicted inundation area.

D.6.2 Applicable Regulations, Plans, and Standards

D.6.2.1 Federal

Clean Water Act

The Clean Water Act (CWA) (33 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. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the NPDES permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by the nine RWQCBs.

Section 401 of the CWA requires that any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in a discharge into a State waterbody must be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards.

Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (ACOE) to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. The USACE issues individual site-specific or general (Nationwide) permits for such discharges.

D.6.2.2 State

Streambed Alteration Agreement

Section 1601 of the California Fish and Game Code requires an agreement between the Department of Fish and Game and a public agency proposing to substantially divert or obstruct the natural flow or effect changes to the bed, channel, or bank of any river, stream, or lake. The agreement is designed to protect the fish and wildlife values of a river, lake, or stream.

Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967, Water Code section 13000 et seq., requires the State Water Resources control Board (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. The criteria for the project area are contained in the water quality control plan for the San Diego Basin.

D.6.2.3 Regional and Local

Water Quality Control Plan for the San Diego Basin (Basin Plan)

The Basin Plan for the San Diego Basin is administered by the SWRCB. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Diego region. The plan describes beneficial uses of water in the San Diego region, water quality objectives, implementation procedures, and water quality plans and policies (RWQCB, 2003).

D.6.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.6.3.1 Definition and Use of Significance Criteria

The following significance criteria are based on the CEQA Checklist in Appendix G to the CEQA Guidelines. Water resources impacts would be considered significant if the project:

- Violates any water quality standards or waste discharge requirements;
- Substantially depletes groundwater supplies 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 that would not support existing land uses or planned uses for which permits have been granted);
- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner that would result in substantial erosion of siltation on or offsite;
- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on or offsite;
- Creates or contributes runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

- Otherwise substantially degrades water quality;
- Places within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Exposes 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; or
- Results in or is subject to inundation by seiche, tsunami, or mudflow.

D.6.3.2 Applicant Proposed Measures

Table D.6-2 presents the APMs proposed by SDG&E to reduce impacts to hydrology and water quality.

APPLICA	TABLE D.6-2 ANT PROPOSED MEASURES – HYDROLOGY AND WATER QUALITY
APM NO.	DESCRIPTION
3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Maintenance of cut and fill slopes created by project construction activities would consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.
4	In areas where recontouring is not required, vegetation would be left in place wherever feasible and original ground contour would be maintained to avoid excessive root damage and allow for resprouting.
5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration would occur as required by the governmental agency having jurisdiction. The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts should never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor. Cleared vegetation would be hauled off-site to a permitted disposal location. To limit impact to existing vegetation, appropriately sized equipment (e.g., bulldozers, scrapers, backhoes, bucket-loaders, etc.) would be used during all ground disturbance and recontouring activities.
6	Potential hydrologic impacts would be minimized through the use of BMPs such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures will be

APPLICA	TABLE D.6-2 ANT PROPOSED MEASURES – HYDROLOGY AND WATER QUALITY
APM NO.	DESCRIPTION
	designed to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.
11	To the extent feasible, access roads would be built at right angles to the streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U. S." or "waters of the state." Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the U.S. Army Corps of Engineers, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings, but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and streambanks (e.g., towers would not be located within a stream channel; construction activities would avoid sensitive features). Prior to construction in streambeds and washes, SDG&E would perform three pre-activity surveys to determine the presence or absence of endangered riparian species. Endangered riparian species for which surveys would be performed include the least Bell's vireo and arroyo southwesterm toad. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. In addition, road construction would include dust-control measures (e.g., watering of construction areas to suppress dust) during construction in sensitive areas, as required. Erosion control during construction in the form of intermittent check dams and culverts should also be considered to prevent alteration to natural drainage patterns and prevent siltation.
16	Hazardous materials would not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment would be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, would be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.
32	A hazardous substance management, handling, storage, disposal, and emergency response plan would be prepared and implemented.
35	To minimize ground disturbance impacts to streams in steep canyon areas, access roads in these areas would avoid streambed crossings to the extent feasible. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB.

APPLICA	TABLE D.6-2 ANT PROPOSED MEASURES – HYDROLOGY AND WATER QUALITY							
APM NO.	DESCRIPTION							
38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into waterbodies.							
40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.							
41	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high- value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see APM 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high-value wildlife habitats, SDG&E would perform three site surveys to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate federal, state SHPO and local (indigenous Native American tribes) cultural resource agencie							

APPLICA	TABLE D.6-2 ANT PROPOSED MEASURES – HYDROLOGY AND WATER QUALITY
APM NO.	DESCRIPTION
52	To the extent feasible, design structure locations to avoid wetlands, streams, and riparian areas. These sensitive water resource features include riparian areas, habitats of endangered species, streambeds, cultural resources, and wetlands. If these areas cannot be avoided, a qualified biological contractor shall conduct site-specific assessments for each affected site. These assessments shall be conducted in accordance with Corps wetland delineation guidelines, as well as CDFG streambed and lake assessment guidelines, and shall include impact minimization measures to reduce wetland impacts to a less than significant effect (e.g., creation and restoration of wetlands). Though construction or maintenance vehicle access through shallow creeks or streams is allowed, staging/storage areas for equipment and materials shall be located outside of riparian areas. Construction of new access through streambeds that require filling for access purposes would require a Streambed Alteration Agreement from the CDFG and/or consultation with the Corps. Where filling is required for new access, the installation of properly sized culverts and the use of geotextile matting should be considered in the CDFG/Corps consultation process.
55	<i>Erosion Control and Sediment Transport Control Plan</i> would be included with the project grading plans submitted to San Diego County for review and comment. The sediment transport control plan would be prepared in accordance with the standards provided in the <i>Manual of Erosion and Sedimentation Control Measures</i> and consistent with practices recommended by the Resource Conservation District of San Diego County. Implementation of the plan would help stabilize soil in graded areas and waterways and reduce erosion and sedimentation. The plan would designate BMPs that would be implemented during construction activities. Erosion control efforts, such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and retention/settlement ponds, would be installed before extensive soil clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds and grading plans would be submitted to the CDFG and Corps for review in the event of construction near waterways.
57	To minimize mud and dust from being transported onto paved roadway surfaces, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
65	In disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils would be decompacted as necessary prior to seeding and reclamation would occur to enhance revegetation and reduce potential for erosion.

D.6.3.3 230 kV Overhead Transmission Line

Impact H-1: Soil Erosion Water Quality Degradation and Sedimentation from Construction Activity and Access Roads

Construction of the overhead transmission line would require excavation and grading for roads and transmission poles. Streams would be spanned by the overhead transmission line. Removal of vegetation, soil disturbance and stockpiling of earth during construction could accelerate soil erosion, which would lead to sediments being washed into surface waters crossed by the proposed overhead transmission line as shown in *Figure D.6.1* and listed in *Table D.6-1*.

SDG&E has proposed APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65 to reduce erosion and sedimentation from construction. These measures require implementation of erosion and sediment best management practices (BMPs); avoidance of streambeds; obtaining NPDES clearance for construction activities; development of and adherence to a Storm Water Pollution Prevention Plan (SWPPP); avoidance of sensitive features including wetlands, water bodies, and riparian areas; and development of and adherence to an Erosion Control and Sediment Transport Control Plan. Implementation of these APMs would protect water quality in the project area due to erosion from construction activities and therefore, this impact is considered less than significant (Class III) and therefore, no further mitigation is required.

Impact H-2: Degradation of Water Quality Through Spill of Potentially Harmful Materials Used in Construction

Accidental spills or disposal of potentially harmful materials used during construction could wash into and pollute surface waters or groundwater. Materials that could potentially contaminate the construction area from a spill or leak include diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. Surface waters shown in *Figure D.6.1* and listed in *Table D.6-1* could receive contaminants should a spill occur. The potential for contamination of the Sweetwater Valley Groundwater basin and the San Diego Groundwater Formation could also occur through infiltration of contaminated flows through the ground or streambeds.

SDG&E has proposed APMs 6, 16, 32 and 38 to reduce impacts during construction due to accidental spills of hazardous materials. These APMs specifically require the use of BMPs such as water bars, silt fences and staked straw bales, proper disposal of hazardous materials used in construction, development of and adherence to a construction SWPPP, avoidance of water bodies and riparian areas where possible during construction, and development of and adherence to a Hazardous Substance Control and Emergency Response Plan for quick and safe cleanup of accidental spills occurring during construction. Implementation of these APMs would protect both surface and groundwater water quality in the project area from accidental spills of

hazardous materials occurring during construction and therefore, this impact is considered less than significant (Class III) and therefore, no further mitigation is required.

Impact H-3: Groundwater Disturbance and Water Quality Degradation Through Project-Related Excavation

Excavation during development of the proposed overhead segment would consist primarily of drilling for the installation of new transmission poles. Foundation holes would be up to nine feet in diameter and 20 to 40 feet in depth. Depth to groundwater in the terrain of the study corridor is generally considered to be deeper than the base of the proposed new tower foundations. As such, from a regional perspective, there would be no impact to groundwater hydrology along the study area. However, specific tower locations may occur in areas where groundwater is shallower. Although not expected, if digging of tower foundation holes does contact groundwater, the construction team may be required to pump groundwater to dewater the excavation. If this occurs, pumped groundwater would be disposed of according to the proposed SWPPP (APM 38). Although minor short-term localized changes (e.g., drawdown) in groundwater flow could occur as a result of dewatering during construction, impacts would be temporary and less than significant (Class III) and therefore, no further mitigation is required.

Groundwater quality in the Project area could be significantly impacted if borings and tower foundations penetrated areas with pre-existing impaired soil or groundwater quality conditions. Construction activities could thereby create a cross-contamination between layers and other non-polluted groundwater zones. This is important in areas of the Project that have identified hazardous waste sites (see *Section D.9.1-2 and D.9.1-3*). The BMPs required by the proposed SWPPP (APM 38) would ensure proper construction techniques in groundwater areas. Implementation of APM 38, along with Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3 provided in *Section D.8, Public Health and Safety*, would ensure that potentially significant impacts to groundwater due to localized excavation during construction (Impact H-3) would be mitigated to a less than significant impact (Class II).

Impact H-4: Increased Runoff from New Impervious Areas and Alteration of Existing Drainage Patterns

Construction of tower foundations, access roads, and pull site/laydown areas could result in additional runoff through the creation of impervious areas and compaction of soils. Impervious areas and compacted soils generally have higher runoff coefficients than natural areas, and increased flood peaks are a common occurrence in developed areas. However, the effect of creating compacted areas (e.g., in access roads) would be less than the effect of installing concrete or asphalt.

In the case of the Proposed Project, there may be small local increases in runoff in new impervious areas caused by installation of the power poles and road construction. Roads will be unpaved and therefore pervious, resulting in little increase in runoff. New roads and poles will comprise a very small portion of the watershed, approximately ten acres out of approximately 670 square miles for the San Diego and Sweetwater hydrologic units together. Therefore, any runoff increase due to the project would be less than significant (Class III) and therefore, no mitigation is required.

As shown in *Figure D.6-1*, the proposed overhead transmission corridor crosses several intermittent and ephemeral streams. Construction and access road building activities across these stream valleys may alter existing surface runoff patterns such that more flow will be concentrated at particular stream crossings. This typically occurs when corrugated metal pipe culverts are used to convey flow beneath new access roads. Potential impacts of road construction and culvert emplacement include concentrating flow, which could increase stream erosion and sediment transport through channel incision. Besides gullying effects, poorly designed stream crossings and culverts can negatively impact the existing drainage pattern through flow blockage or the reduction of tributary flow, also known as channel capture. SDG&E's APMs 11 and 52 which call for minimizing access road construction near surface water would reduce this impact. However, the potential for concentrated runoff and increased erosion to result from road crossings of ephemeral streams and other construction activities is considered a potentially significant impact. Implementation of Mitigation Measure H-4a would reduce potentially significant impacts due to concentrated runoff and increased erosion (Impact H-4) to less than significant (Class II).

Mitigation Measure for Impact H-4, Drainage Alteration

H-4a Access roads and drainage systems shall be designed to account for anticipated surface runoff and channel flow. Culverts designed to convey flow beneath access roads shall be designed for the specific hydrologic and hydraulic conditions occurring at the site. Culvert design shall follow standard practices (Caltrans Highway Design Manual, 1999) and shall also include energy dissipation practices (Federal Highway Administration, 1983). Flow velocities shall be maintained below levels that are capable of causing channel erosion downstream or headward channel incision upstream. Construction plans for new roads shall be submitted to the local jurisdiction and CPUC for review and approval at least 60 days prior to the start of construction.

Impact H-5: Encroachment into a Floodplain or Watercourse by Permanent Project Features

Encroachment of a project structure into a flow path of a watercourse could result in flooding of or erosion damage to the encroaching structure, diversion of flow and increased flood risk for adjacent property, or increased erosion on adjacent property. However, all proposed aboveground features including new transmission poles, transition station and modifications to existing substations would be placed outside the 100-year floodplain and associated water courses and therefore, there is no risk of exposing structures to flooding hazards or increase in flooding hazards.

Impact H-6: Construction in a Potential Dam Inundation Area

The Proposed Project would cross the inundation zone of the El Capitan Reservoir, Sweetwater Reservoir and Chollas Heights Reservoir. The unlikely event of a dam failure would result in a dam-inundation floodplain crossing the project path. The Proposed Project would span the dam inundation area with overhead lines. Tower foundations within the dam inundation area could be affected by flowing water, which would cause scour issues around the base of the towers and poles. The likely worst-case consequences would be a destabilization of the power poles, which may result in temporary interruption of the power supply. Since the risk of dam inundation is considered low, and resulting adverse environmental consequences low, this impact would be considered less than significant (Class III) and therefore, no mitigation is required.

Impact H-7: Operation and Maintenance Impacts to Surface Water and Groundwater Quality

Operations and maintenance of the proposed 230 kV transmission line primarily entail periodic ground checks of transmission lines and structures and would have no identifiable effect to either surface water or groundwater quality.

D.6.3.4 230 kV Underground Cable

Impacts H-1 (erosion) and H-2 (construction contamination) described in *Section D.6.3.3* would apply to the proposed underground cable. Implementation of the APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65 described for these impacts in *Section D.6.3.3* would ensure that these impacts would be less than significant (Class III) and therefore, no further mitigation is required.

Impact H-3: Groundwater Disturbance and Water Quality Degradation Through Project-Related Excavation

In order to allow for proper construction of the underground cable, dewatering will be required during trench excavation and proposed boring. At directional drill sites, drilling fluids and cuttings would be contained in drilling fluid collection pits located at each bore site and disposed of at an approved disposal site. As discussed in Section D.9, Public Health and Safety, over 70 known environmental contaminated sites have been recorded within or adjacent to the proposed underground cable alignment. Potential water quality effects could occur to surface water due to inadvertent disposal of excess groundwater not contained in drilling fluid collection pits, or during trenching excavation, should groundwater be contaminated. Impacts could also occur due to inadvertent release of drilling mud during boring and directional drilling operations. For horizontal boring, as long as the boring alignment is reasonably deep (greater than 10 feet), there is little likelihood of any inadvertent reaction at the surface such as frac-out (loosing) of drilling fluid to the surface. However, horizontal drilling poses a potential for frac-out. During the drilling process, the drilling fluid is pumped into the hole at a high pressure through the middle of the drilling rod. The high pressure pushes the displaced earth, mud, rocks, etc., back out of the drilling hole. Because of the high pressure, if there is any weakness in the ground above the drilling path, there is a chance of a frac-out, or loosing drilling fluid to the surface. The BMPs required by the proposed SWPPP (APM 38) along with implementation of Mitigation Measures HAZ-2a, HAZ-2b, HAZ-3 provided in Section D.8, Public Health and Safety, as well as Mitigation Measures H-3a and H-3b, would ensure that all groundwater discharge including inadvertent discharge into surface water bodies due to trenching, boring and directional drilling would be in compliance with applicable requirements and therefore mitigated to a less than significant impact (Class II).

Groundwater conditions related to altered direction, rate of flow, or quality due to dewatering during construction, would be less than significant requiring no mitigation (Class III) as dewatering impacts would be localized and would occur for a short-term only during construction. Furthermore, the project would not change the regional groundwater absorption rates as no large areas of land would be covered by above-ground facilities.

Movement of shallow groundwater could be potentially disrupted by placement of the proposed duct bank with associated effects to downstream subsurface or surface flows. These impacts would be associated with proposed stream and Sweetwater Marsh crossings and projected groundwater occurrence in these areas. However, the underground cable and associated duct bank are expected to have a less than significant impact requiring no mitigation (Class III) to altering groundwater flow. The proposed duct bank would measure between three feet by three feet to three feet by six feet and on average be placed approximately four to six feet below the surface except in areas where horizontal directional drilling is proposed (Sweetwater Marsh and San Diego River) where depths would average approximately 50 feet below the surface. These

depths are considered sufficient to preclude impacts to groundwater flow in smaller streams and channels due to associated alluvium depths. That is, streams and channels with alluvium depths of less than 20 feet will generally not be affected as the duct bank would be located largely outside of the aquifer. Streams with alluvial depths exceeding 20 feet would be likely to accommodate the proposed three feet by three to six-foot duct bank without impacts to groundwater movement.

Mitigation Measure for Impact H-3, Groundwater Disturbance and Water Quality Degradation Through Project-Related Excavation

- **H-3a** Short-term water quality impacts during construction shall be minimized by complying with federal and state regulations for groundwater discharge into surface water bodies. All discharges shall be in compliance with RWQCB requirements. If dewatering activities associated with cable trenching and boring results in possible exposure to contaminated groundwater and/or soils, SDG&E shall ensure compliance with the State of California CCR Title 23 Health and Safety Regulations as managed by the San Diego County Department of Environmental Health. Additionally, SDG&E shall ensure compliance with the Clean Water Act and National Pollutant Discharge Elimination System regulations regarding water discharge from construction activities to surface waters. Groundwater impacted by gasoline products may have to be treated prior to discharge to surface waters (stormdrains) or sanitary sewer. Treatment options may include granular activated carbon absorption. Verification of compliance shall be submitted to the CPUC for review and approval at least 60 days prior to construction and during construction as required.
- **H-3b** SDG&E shall require that the contractor prepare and submit for approval to the RWQCB, procedures for containment, such as the use of additives within the drilling fluid to thicken the viscosity, in the event of an inadvertent release of drilling fluids (frac-out) due to horizontal boring or horizontal directional drilling.

Impact H-4: Increased Runoff from New Impervious Areas and Alteration of Existing Drainage Patterns

Construction of the underground cable would cross several water bodies as shown in *Figure D.6-4* and listed in *Table D.6-1*. Grading and excavation activities across or adjacent to drainage channels could temporarily alter runoff patterns and change channel geometry. Displaced soil adjacent to project trenches would be restored or removed upon project completion and all normal surface and subsurface drainage of the site would be restored per the Applicant's proposed APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65. Therefore, drainage alteration of local water systems as a result of the project construction is considered to be a less than significant impact (Class III) and therefore, no further mitigation is required.

Impact H-5: Encroachment into a Floodplain or Watercourse by Permanent Project Features

The proposed underground cable alignment would cross the FEMA 100-year flood zone of the Sweetwater River, Paradise Creek, Chollas Creek, and San Diego River. As proposed, the applicant proposes to bore below the watercourses crossed by the underground cable and install a 36-inch steel or HDPE casing for the proposed cable. As discussed under Impact H-3, less than significant impacts (Class III) to local surface water hydrology and drainage are anticipated due to proposed trenching, boring or horizontal drilling. However, exposure of the underground cable to floodway hazards primarily scour (damage done by a powerful current of water) is considered a potentially significant impact. Implementation of Mitigation Measure H-5a would ensure proper burial of the proposed cable and therefore scour impacts due to floodplain or watercourse hazards (Impact H-5) would be mitigated to less than significant (Class II).

Mitigation Measure for Impact H-5, Encroachment into a Floodplain or Watercourse by Permanent Project Features

H-5a A scour analysis shall be completed during the design phase to determine potential cable washout dangers commonly associated with major flood events for all floodplain or watercourses crossed by the underground cable. A report of the analysis shall be submitted to the CPUC for review and approval at least 60 days prior to construction.

D.6.3.5 Transition Station

The proposed transition station would be located in an existing parking lot and not subject to the flow from a water course. Construction of the Transition Station would require excavation and operation of heavy equipment and therefore, Impact H-1 (erosion), H-2 (construction contamination), and H-3 (groundwater disturbance/existing contamination) as described in *Section D.6.3.3* for the overhead transmission line would apply. Implementation of the APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65 described for these impacts in *Section D.6.3.3* would ensure that impact H-1 and H-2 would be less than significant (Class III) and therefore, no further mitigation is required. Implementation of Mitigation Measures HAZ-2a, HAZ-2b, HAZ-3 and H-3a would mitigate Impact H-3 (groundwater disturbance/existing contamination) to levels that are less than significant (Class II).

D.6.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

Proposed modifications would be located within the developed footprint of existing substations. Construction of these modifications would require operation of heavy equipment and therefore, Impact H-2 (construction contamination) would apply as described in *Section D.6.3.3* for the overhead transmission line. Implementation of APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65

described for this impact in *Section D.6.3.3* would ensure that this impact is less than significant (Class III) and therefore, no further mitigation is required.

D.6.4 **Project Alternatives**

D.6.4.1 SDG&E Design Option Alternatives (*Pacific Highway Bridge Attachment,* Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.6.1 describes the hydrology and water quality setting along the project alignment. Because SDG&E's design option alternatives would occur in the same hydrologic area and alignment as the Proposed Project, the existing hydrological conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. The increased trenching portion of this alternative would take place in previously graded areas associated with existing City of San Diego roadways and may require dewatering during construction. The BMPs required by the proposed SWPPP (APM 38) along with Mitigation Measures HAZ-2a, HAZ-2b, and HAZ-3 provided in *Section D.8, Public Health and Safety*, as well Mitigation Measure H-3a would ensure that all groundwater discharge into surface water bodies due to dewatering (Impact H-3) associated with the Pacific Highway Bridge Attachment Design Alternative would be in compliance with applicable requirements and therefore would be mitigated to a less than significant impact (Class II).

Harbor Drive Bridge Attachment Design Alternative: The Harbor Drive Bridge Attachment Design Alternative is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. Because this alternative entails only the attachment of the proposed 230 kV cable to the existing Harbor Drive Bridge, no impacts to hydrology or water quality would occur due to implementation of this alternative.

Sicard Street Transition Cable Pole Design Alternative: The hydrology and water quality impacts for this alternative design option would not be significantly different from the proposed Sicard Street Transition Station. Groundwater disturbance and water quality degradation (Impact

H-3) through project-related excavation would occur in the same manner as described in *Section D.6.3.5* for the proposed Sicard Street Transition Station. The BMPs required by the proposed SWPPP (APM 38) along with Mitigation Measures HAZ-2a, HAZ-2b, and HAZ-3 provided in *Section D.8, Public Health and Safety,* as well Mitigation Measure H-3a would ensure that all groundwater discharge into surface water bodies due to dewatering associated with the Sicard Street Transition Cable Pole Design Alternative would be in compliance with applicable requirements and therefore would be mitigated to a less than significant impact (Class II).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River overhead option primarily consists of minor modifications to existing structures, associated hydrology and water quality impacts (Impacts H-1 through H-7) would be less than significant (Class III) and therefore, no mitigation would be required.

Comparison to the Proposed Project

Pacific Highway Bridge Attachment Design Alternative: This alternative would eliminate the need to directionally drill under the San Diego River and therefore, project impacts due to groundwater disturbance and water quality degradation (Impact H-3) and encroachment into a floodplain/water course (Impact H-5) would be reduced under the Pacific Highway Bridge Attachment from (Class II) potentially significant requiring mitigation, to less than significant impact requiring no mitigation (Class III).

Harbor Drive Bridge Attachment Design Alternative: This alternative would eliminate the need to bore under the Harbor Drive Bridge and therefore, project impacts due to groundwater disturbance and water quality degradation (Impact H-3) would be reduced from (Class II) potentially significant requiring mitigation to less than significant impact requiring no mitigation (Class III).

Sicard Street Transition Cable Pole Design Alternative: Hydrology and water quality impacts resulting from the construction of SDG&E's Sicard Street Transition Cable Pole would be substantially the same as for the Proposed Project.

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Project impacts due to groundwater disturbance and water quality degradation (Impact H-3) and encroachment into a floodplain/water course (Impact H-5) would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative from (Class II) potentially significant requiring mitigation, to less than significant impact (Class III) and therefore, no mitigation is required.

D.6.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.6.1 describes the hydrology and water quality setting along the project alignment. Because this alternative would occur in the same area as the Proposed Project, the existing hydrologic conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

The hydrology and water quality impacts for the Transmission System Alternative would be greater than the Proposed Project due to the additional construction required for (1) removal of 138kV overhead transmission line and associated 46 lattice towers; (2) construction of a 138 kV overhead transmission line from the Proctor Valley Substation to Miguel Substation; and (3) additional work at the Miguel, Proctor Valley and Los Coches Substations to accommodate transformers or provide necessary connections. Construction of these additional components associated with this alternative would increase the adverse effects of construction-related water quality degradation and accidental spills of hazardous materials (Impacts H-1 and H-2) described in *Section D.6.3* for the Proposed Project. Implementation of APMs 3, 4, 5, 6, 11, 35, 38, 40, 52, 55, 57 and 65 would reduce impacts to water quality due to erosion and sedimentation from construction (Impact H-1) to less than significant (Class III) and therefore, no further mitigation is required.

As described in *Section D.6.3* for the Proposed Project, groundwater may also be encountered under the Transmission System Alternative during excavation and boring activities for construction of new steel poles and dewatering may be necessary. If dewatering is necessary, pumped groundwater would be disposed of according to the proposed SWPPP (APM 38). Minor short-term localized changes (e.g., drawdown) in groundwater flow could occur as a result of dewatering during construction; however, impacts would be temporary and less than significant (Class III). Groundwater quality is not anticipated to be affected under this alternative. Similar to the Proposed Project, contamination of groundwater may potentially occur during excavation and boring activities. Implementation of APM 38, along with Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3 provided in *Section D.8, Public Health and Safety,* would ensure that potentially significant impacts to groundwater due to localized excavation during construction (Impact H-3) would be mitigated to less than significant (Class II).

Construction of the additional 138 kV line as proposed under the Transmission System Alternative would increase impacts associated with additional runoff at stream crossings from those described for the Proposed Project. APMs 11 and 52, which would minimize access road construction near surface water, as well as implementation of Mitigation Measure H-4a would mitigate potentially significant impacts due to concentrated runoff and increased erosion (Impact H-4) to less than significant (Class II).

Similar to the Proposed Project, all above ground structures would be placed outside the 100year floodplain. Therefore, there is no risk of exposing structures to flooding hazards or increase in flooding hazards (Impact H-5). Also, the risk of dam inundation is considered low; therefore, impacts associated with dam inundation (Impact H-6) would be considered less than significant (Class III) and therefore, no mitigation is required.

Potential impacts due to future maintenance and operation (Impact H-7) would be unchanged from that described for the Proposed Project overhead transmission circuit, which were determined to be less than significant requiring no mitigation (Class III).

Comparison to the Proposed Project

Impacts to hydrology and water quality (Impacts H-1 through H-4) under the Transmission System Alternative are anticipated to be greater due to the additional construction required; however, with implementation of APMs and mitigation measures described in Section D.6.3, impacts would be mitigated to less than significant (Class II). Impacts related to flooding (Impact H-5), dam inundation (Impact H-6) and maintenance and operation (Impact H-7) would be the same as the Proposed Project, which were determined to be less than significant requiring no mitigation (Class III).

D.6.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the no Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.6.3* for new transmission and generation, but could vary depending on length of transmission line and location pursued.

D.6.5 Mitigation Monitoring, Compliance and Reporting Table

Table D.6-3 shows the mitigation monitoring, compliance, and reporting program for hydrology and water quality. The CPUC with assistance from the RWQCB and San Diego County shall be responsible for ensuring compliance with the provisions of the monitoring program. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the OMPPA Transmission Project are listed. *Table D.6-3* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.6-3*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY								
No.	Impact	MM	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
H-1			3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation. Maintenance of cut and fill slopes created by project construction activities shall consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix shall be done on slopes.	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure minimization of disturbance and erosion.	During construction in all work areas, primarily associated with overhead transmission line.		
		4 In areas where recontouring is n required, vegetation shall be left place wherever feasible and origin ground contour shall be maintained avoid excessive root damage an allow for resprouting.	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure minimization of disturbance and erosion.	During construction in all work areas, primarily associated with overhead transmission line.				
			5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration shall occur as required by the governmental agency having jurisdiction. The method of restoration	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure	During construction in all work areas, primarily associated with overhead transmission line.		

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY								
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				normally shall consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion shall be minimized on access roads and other locations primarily with water bars. The water bars shall be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts shall never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor.		minimization of disturbance and erosion.			
			6	Potential hydrologic impacts shall be minimized through the use of BMPs such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures shall be designed to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to minimize erosion impacts.	During construction in all work areas.		

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY									
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
			11, 35	To the extent feasible, access roads shall be built at right angles to the streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E shall limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads shall be constructed in a manner that minimizes potential adverse impacts on "waters of the U. S." or "waters of the state." Streambed crossings and roads constructed parallel to streambeds shall require review and approval of necessary permits from the U.S. Army Corps of Engineers, CDFG, and RWQCB. Culverts shall be installed where needed for right angle crossings, but rock crossings shall be utilized across most right angle drainage crossings. All construction and maintenance activities shall be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and streambanks (e.g., towers would not be located within a stream channel; construction activities would avoid sensitive features). In addition, road construction shall include dust-control measures (e.g., watering of	SDG&E to incorporate commitments into construction contracts and submit final design plans to City and County for review and comment. SDG&E to implement BMPs.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify CDFG, ACOE and RWQCB review and approval and that copies of all requisite permits be provided prior to construction. CPUC to inspect periodically to ensure minimization of disturbance and erosion.	During construction in all work areas, primarily associated with overhead transmission line.			

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY								
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				construction areas to suppress dust) during construction in sensitive areas, as required. Erosion control during construction in the form of intermittent check dams and culverts shall also be considered to prevent alteration to natural drainage patterns and prevent siltation.					
			38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into water bodies.	SDG&E to implement measure as defined.	CPUC to verify and ensure RWQCB approval, and require SDG&E to submit NPDES permit and SWPPD to the CPUC thereby minimizing water quality impacts.	Prior to construction in all work areas.		
			40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) shall follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure minimization of disturbance and erosion.	During construction in all work areas, primarily associated with overhead transmission line.		

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY								
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				species, cultural site). To the extent feasible, new access roads shall be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/ seeding plans for the project shall incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.					
			52	To the extent feasible, design structure locations to avoid wetlands, streams, and riparian areas. These sensitive water resource features include riparian areas, habitats of endangered species, streambeds, cultural resources, and wetlands. If these areas cannot be avoided, a qualified biological contractor shall conduct site-specific assessments for each affected site. These assessments shall be conducted in accordance with Corps wetland delineation guidelines, as well as	SDG&E to implement measure as defined.	CPUC to review final design plans and verify CDFG, RWQCB and ACOE requirements have been met and inspect periodically to ensure minimization of disturbance and erosion.	Prior to and during construction, primarily work areas associated with new overhead transmission line and new access roads.		

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY								
No.	Impact	MM	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				CDFG streambed and lake assessment guidelines, and shall include impact minimization measures to reduce wetland impacts to a less than significant effect (e.g., creation and restoration of wetlands). Though construction or maintenance vehicle access through shallow creeks or streams is allowed, staging/storage areas for equipment and materials shall be located outside of riparian areas. Construction of new access through streambeds that require filling for access purposes would require a Streambed Alteration Agreement from the CDFG and/or consultation with the Corps. Where filling is required for new access, the installation of properly sized culverts and the use of geotextile matting should be considered in the CDFG/ Corps consultation process.					
			55	Erosion Control and Sediment Transport Control Plan shall be included with the project grading plans submitted to San Diego County for review and comment. The sediment transport control plan would be prepared in accordance with the standards provided in the Manual of Erosion and Sedimentation Control Measures and consistent with practices recommended by the Resource Conservation District of	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure minimization of disturbance and erosion.	During construction in all work areas, primarily associated with overhead transmission line.		

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY								
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				San Diego County. Implementation of the plan would help stabilize soil in graded areas and waterways and reduce erosion and sedimentation. The plan shall designate BMPs that would be implemented during construction activities. Erosion control efforts, such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and retention/ settlement ponds, shall be installed before extensive soil clearing and grading begins. Mulching, seeding, or other suitable stabilization measures shall be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds and grading plans would be submitted to the CDFG and Corps for review in the event of construction near waterways.					
			57	To minimize mud and dust from being transported onto paved roadway surfaces, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface and extending	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to minimize erosion	During construction in all work areas primarily associated with overhead transmission line.		

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY							
No.	Impact	MM	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
				for a centerline distance of at least 100 feet and a width of at least 20 feet.		and sedimentation.		
			65	Disturbed areas where construction equipment has caused compaction of soils (e.g., staging areas, structure sites, temporary spur roads), soils shall be decompacted as necessary prior to seeding and reclamation would occur to enhance revegetation and reduce potential for erosion.	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure minimization of disturbance and erosion.	During construction in all work areas, primarily associated with overhead transmission line.	
H-2	Degradation of water quality through spill of potentially harmful materials used in construction	/ through spill of ially harmful als used in	See above for description of APMs 6 and 38.	Hazardous materials shall not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment shall be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to inspect periodically to ensure minimization of accidental release, containing and properly disposing of hazardous materials.	During construction in all work areas.	
			32	A hazardous substance management, handling, storage, disposal, and emergency response plan shall be prepared and	SDG&E to implement measure as defined.	CPUC to verify approval from San Diego County thereby minimizing the risk of	Prior to and during construction for all work areas.	

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY							
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
				implemented.		accidental release, containing and properly disposing of hazardous materials.		
H-3	Groundwater disturbance and water quality degradation through project-related excavation	H-3a		Short-term water quality impacts during construction shall be minimized by complying with federal and state regulations for groundwater discharge into surface water bodies. All discharges shall be in compliance with RWQCB requirements. If dewatering activities associated with cable trenching and boring results in possible exposure to contaminated groundwater and/or soils, SDG&E shall ensure compliance with the State of California CCR Title 23 Health and Safety Regulations as managed by the San Diego County Department of Environmental Health. Additionally, SDG&E shall ensure compliance with the Clean Water Act and National Pollutant Discharge Elimination System regulations regarding water discharge from construction activities to surface waters. Groundwater impacted by gasoline products may have to be treated prior to discharge to surface waters (stormdrains) or sanitary sewer. Treatment options may include granular activated carbon absorption. Verification of	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify RWQCB and County approval of dewatering activities thereby minimizing the potential for water quality degradation through project-related excavation.	During construction in all work areas.	

	TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY							
No.	Impact	MM	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
				compliance shall be submitted to the CPUC for review and approval at least 60 days prior to construction and during construction as required.				
		H-3b		SDG&E shall require that the contractor prepare and submit for approval to the RWQCB, procedures for containment, such as the use of additives within the drilling fluid to thicken the viscosity, in the event of an inadvertent release of drilling fluids (frac-out) due to horizontal boring or horizontal directional drilling.	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify approval from RWQCB to ensure protection of water quality.	Prior to and during construction in all areas proposed for horizontal boring or horizontal directional drilling.	
		HAZ-2a, HAZ-2b, HAZ-3	16, 32	See above for APM 16 and 32 description. See Section D.9, Public Health and Safety for description of HAZ-2a, HAZ-2b and HAZ-3.				
H-4	Increased runoff from new impervious areas and alteration of existing drainage patterns	H-4a	See above for description of APM 11 and 52.	Access roads and drainage systems shall be designed to account for anticipated surface runoff and channel flow. Culverts designed to convey flow beneath access roads shall be designed for the specific hydrologic and hydraulic conditions occurring at the site. Culvert design shall follow standard practices (Caltrans Highway Design Manual, 1999) and shall also include energy dissipation practices (Federal Highway Administration, 1983). Flow velocities shall be maintained below levels that are capable of causing	SDG&E to implement measure as defined and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify approval from local planning agencies of grading plans thereby minimizing runoff and drainage pattern impacts.	Prior to and during construction in all work areas.	

TABLE D.6-3 MITIGATION MONITORING PROGRAM – HYDROLOGY AND WATER QUALITY							
No.	Impact	MM	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				channel erosion downstream or headward channel incision upstream. Construction plans for new roads shall be submitted to the local jurisdiction and the CPUC for review and approval at least 60 days prior to the start of construction.			
H-5	Encroachment into a floodplain or watercourse by permanent project features	H-5a		A scour analysis shall be completed during the design phase to determine potential cable washout dangers commonly associated with major flood events for all floodplain or water courses crossed by the underground cable. A report of the analysis shall be submitted to the CPUC for review and approval at least 60 days prior to construction.	SDG&E to implement measure as defined.	CPUC to review and approve engineering analysis thereby minimizing scour and erosion.	Prior to construction in locations where the proposed cable will cross below or pass adjacent to streams and water courses.

D.6.6 References

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- SDG&E 2004f. Response of San Diego Gas & Electric to CPUC Data Request No. 2. August.
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- U.S. Environmental Protection Agency, Office of Water. 2002. *Watershed Protection Homepage* accessed April 2002. <u>www.epa/gov/owow/watershed</u>.
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D.7 LAND USE, AGRICULTURE AND RECREATIONAL RESOURCES

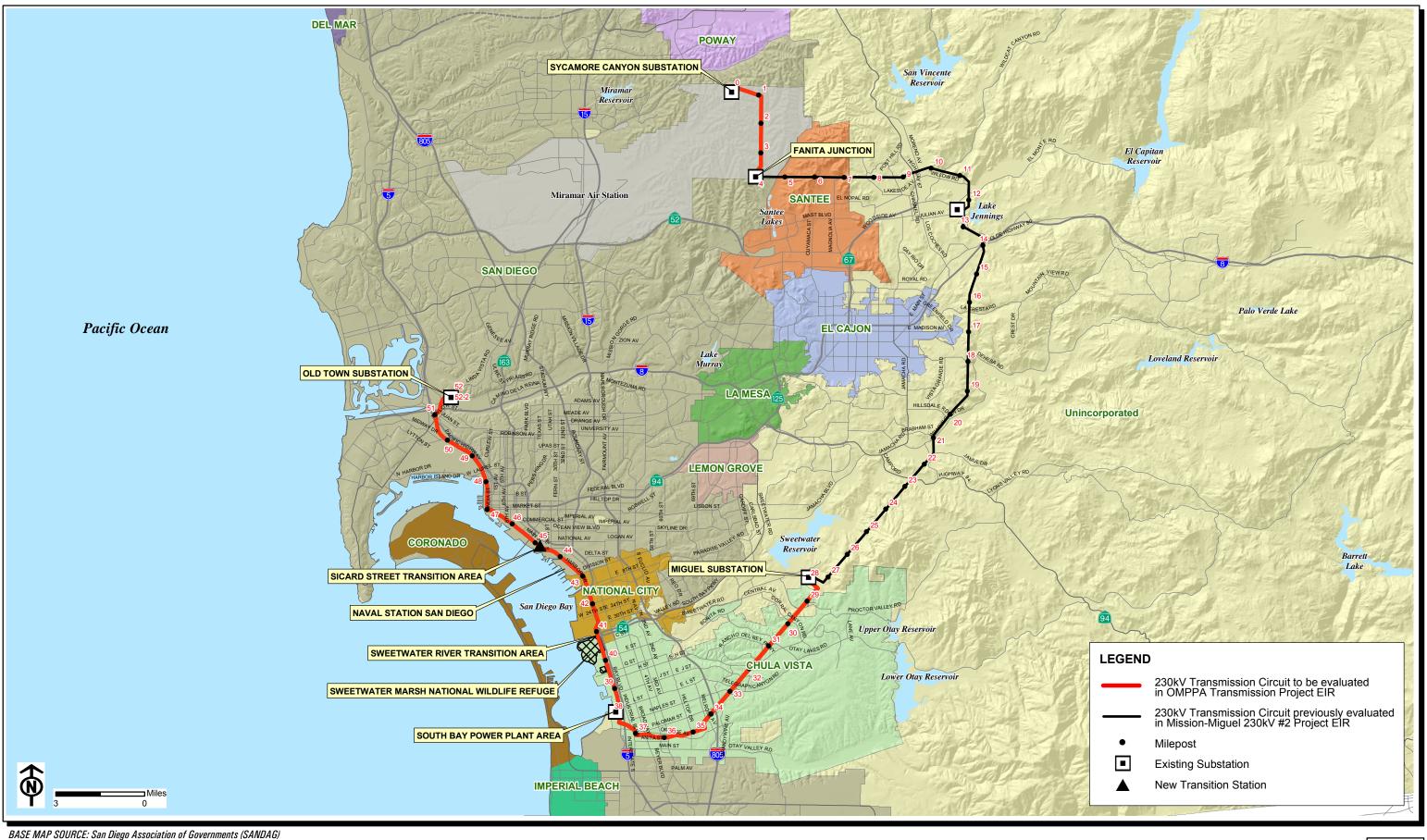
This section evaluates the physical impacts of the OMPPA Transmission Project and alternatives on existing, planned, and proposed land uses and agricultural and recreational resources. *Section D.7.1* provides a description of the environmental setting, and the applicable regulations, plans and standards are introduced in *Section D.7.2*. An analysis of the OMPPA Transmission Project impacts is provided in *Section D.7.3*, and the land use impacts related to alternatives are described in *Section D.7.4*. *Section D.7.5* provides mitigation monitoring, compliance, and reporting information.

Aside from impacts to the existing, planned, and proposed land uses analyzed in this section, a number of additional land use related topics are addressed elsewhere in this EIR. Air quality issues are described in *Section D.2*; noise issues are described in *Section D.8*; public health and safety issues are discussed in *Section D.9*; population and housing issues are discussed in *Section D.11*; traffic and circulation issues are discussed in *Section D.12*; and visual resources are discussed in *Section D.13*.

D.7.1 Environmental Setting for the Proposed Project

The land use study area includes private and public lands that may be affected directly or indirectly by construction of the OMPPA Transmission Project. The land use study area for the OMPPA Transmission Project encompasses the project ROW and lands adjacent to the edge of the ROW. Baseline existing land use information was based on review of aerial photographs, SANDAG's existing land use database, SDG&E's PEA (March 2004), as well as site visits. Planned and proposed land use information was obtained from General Plans for the cities of San Diego, National City, and Chula Vista, and the County of San Diego. Other relevant land use plans, including applicable community plans, master plans and habitat conservation plans, were also reviewed. Additional information was gathered through personal communication with cities' planning and engineering staff.

As shown in *Figure D.7-1, Regional Jurisdiction Map*, the transmission line route would traverse the cities of San Diego, Chula Vista, National City and unincorporated areas in the eastern portion of San Diego County as well as cross the U.S. Marine Corps Air Station Miramar (MCAS), U.S. Naval Station San Diego, and the Sweetwater Marsh Natural Wildlife Refuge. From the Sycamore Canyon Substation to the South Bay Power Plant Area and from the Sweetwater River to the Sicard Street Transition Area, the proposed 230 kV overhead transmission line would be located within existing SDG&E ROW. From the South Bay Power Plant Area to Sweetwater River and from the Sicard Street Transition Area to the Old



OMPPA Transmission Project EIR Regional Jurisdictional Map



Town Substation, the proposed 230 kV transmission cable would be located underground primarily within SDG&E ROW or within City of San Diego Streets, including Harbor Drive, Pacific Highway, Linda Vista Road, Mildred Street, and Benicia Street where the 230 kV transmission cable would connect to the Old Town Substation.

The following discussion of the environmental setting of the OMPPA Transmission Project includes a description of the existing land uses, planned land uses, proposed land uses, agricultural resources and recreational resources along the Proposed Project alignment.

D.7.1.1 Existing Land Uses

The existing land uses analyzed in this section include both the natural and human-modified developments. In general the existing land uses in the study area are characterized by a mixture of residential (single family and multi-family), commercial, industrial, military, open space, recreational and other institutional facilities.

Figures D.7-2 Existing Land Use Maps 1, 2a through *2c, 3, 4, 5a* and *5b* illustrate the existing land uses within the project study area. Definitions for existing land use categories are based on SANDAG's classifications as provided below.

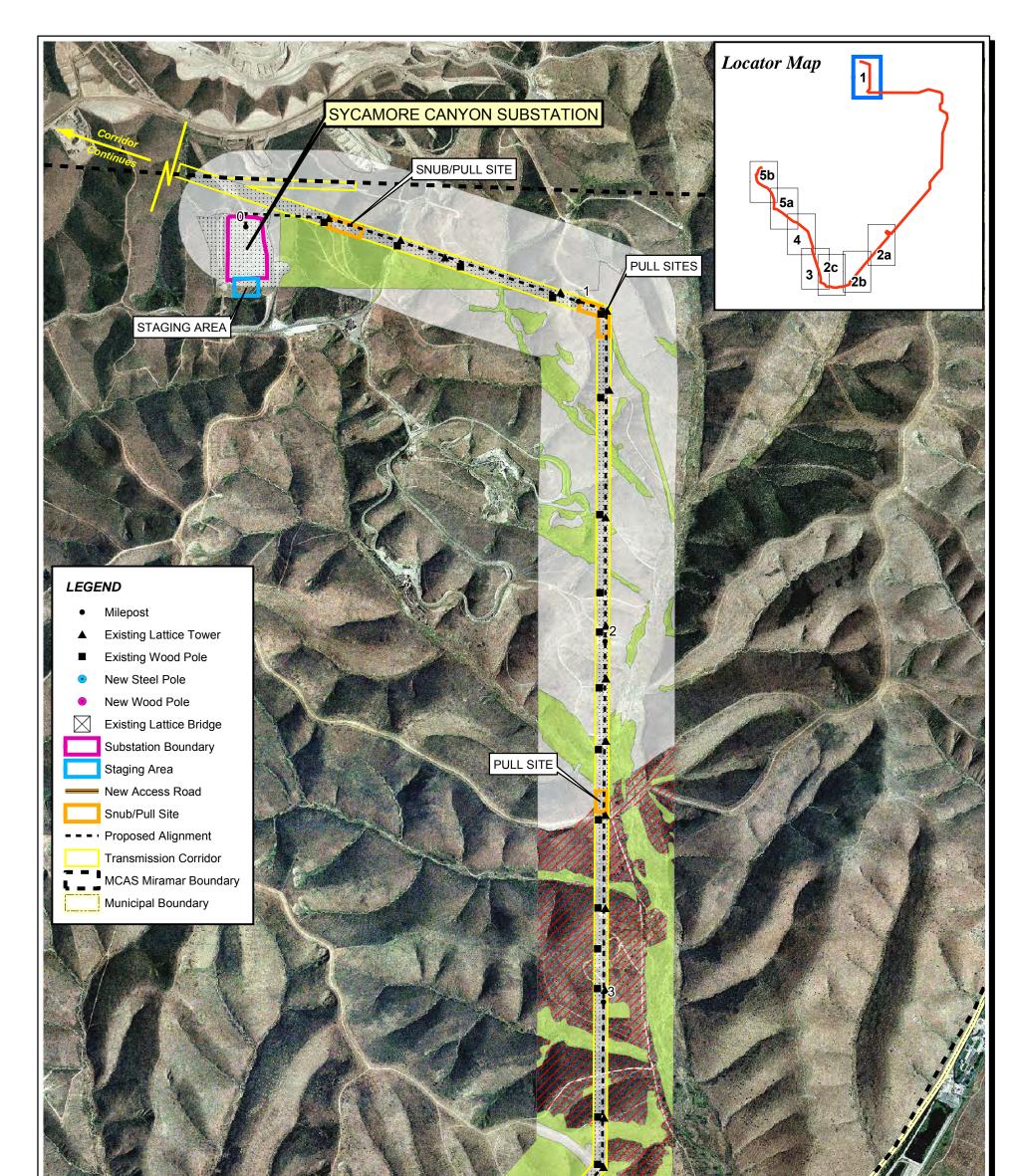
Rural Residential – This land use is defined as single family homes located in rural areas with lot sizes of approximately one to 10 acres. Small orchards, fields or small storage buildings may be associated with the residential dwelling unit.

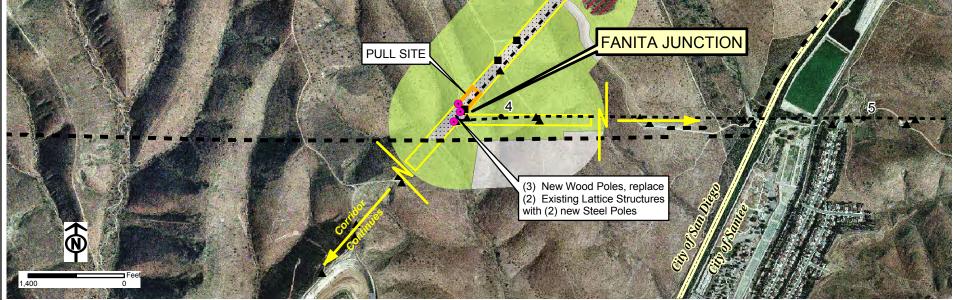
Single Family Residential – This land use is defined as single family detached homes on lots less than one acre in size.

Multi-family Residential – This land use is defined as attached housing units with two or more units per structure. This would include duplexes, townhouses, condominiums, and apartments.

Mobile Homes – This land use type is defined as an area occupied by a minimum of 10 mobile homes used primarily for residential purposes. This land use category excludes RV parks.

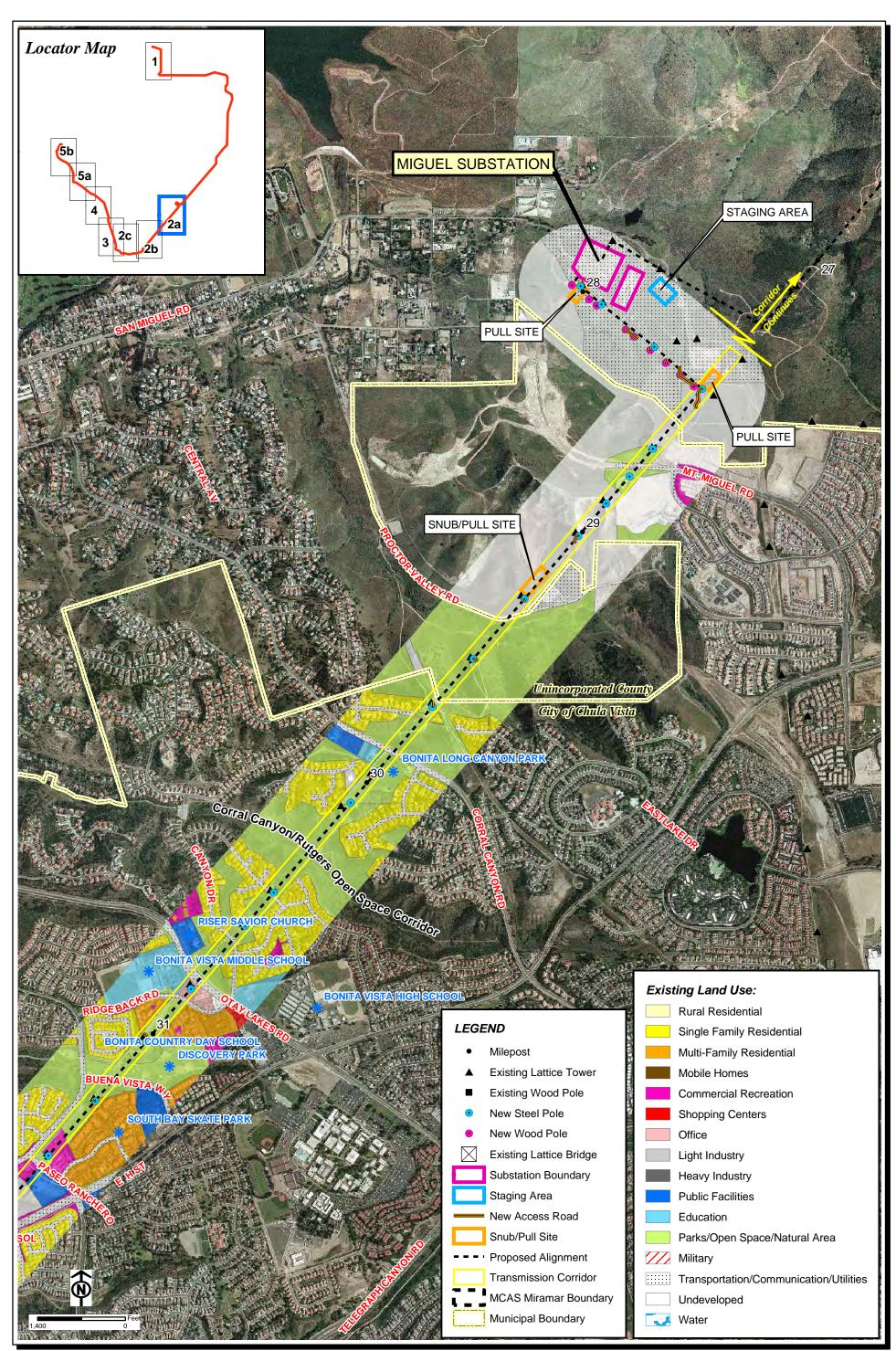
Commercial Recreation - This land use type includes hotels, motels, resorts with hotel accommodations, tourist attractions (*i.e.*, Sea World, Wild Animal Park), stadiums, sports arenas, racetracks, private and public golf courses, golf course clubhouses and swimming/tennis facilities, convention centers, marinas, and casinos. In addition, other uses under this category include RV parks, drive-in theatres, campgrounds, YMCAs, swim clubs, movie theatres, rifle ranges, boys/girls clubs and senior recreation centers.





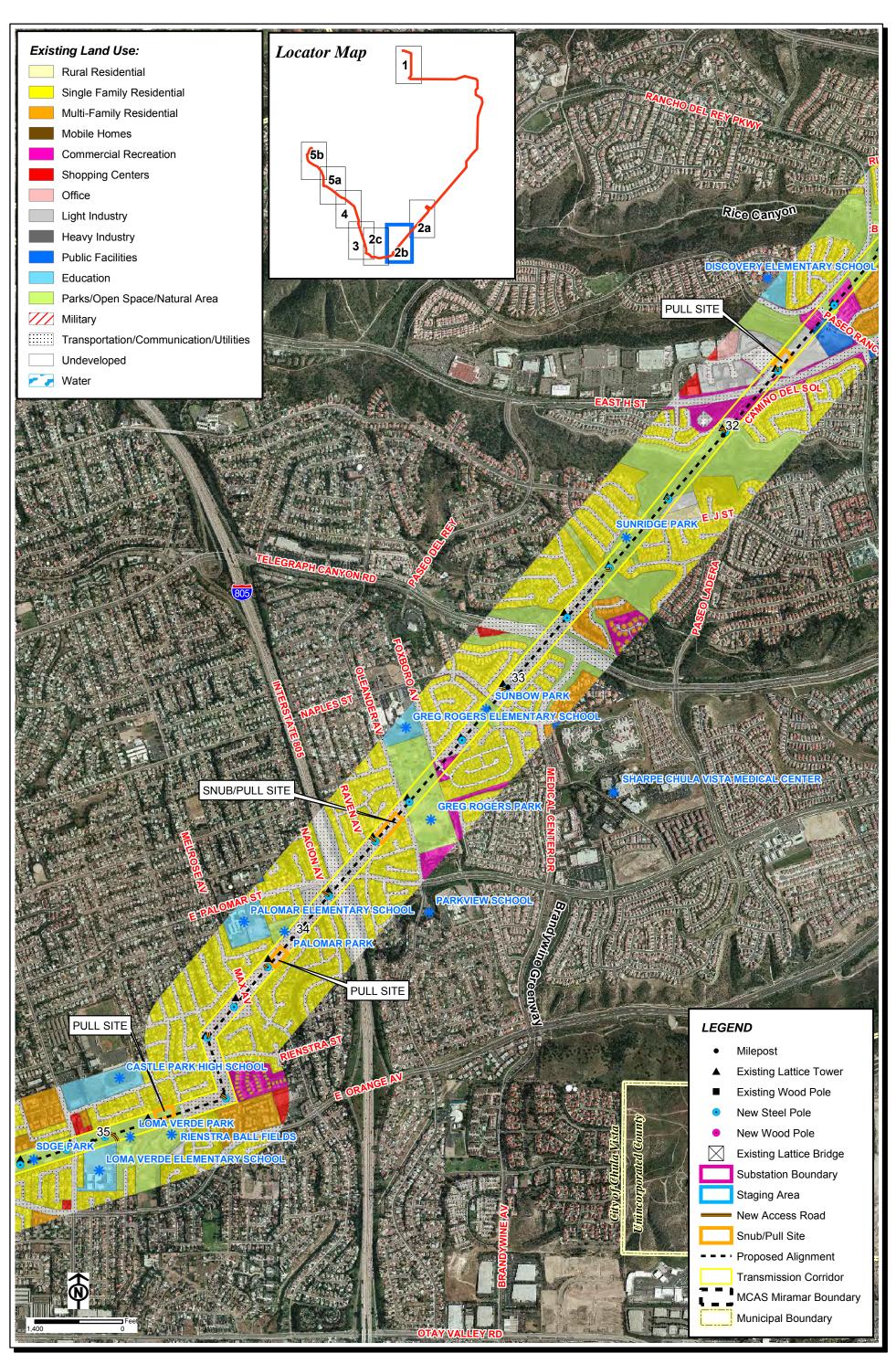
OMPPA Transmission Project EIR Existing Land Use Map 1 (Sycamore Canyon - Fanita Junction)

FIGURE



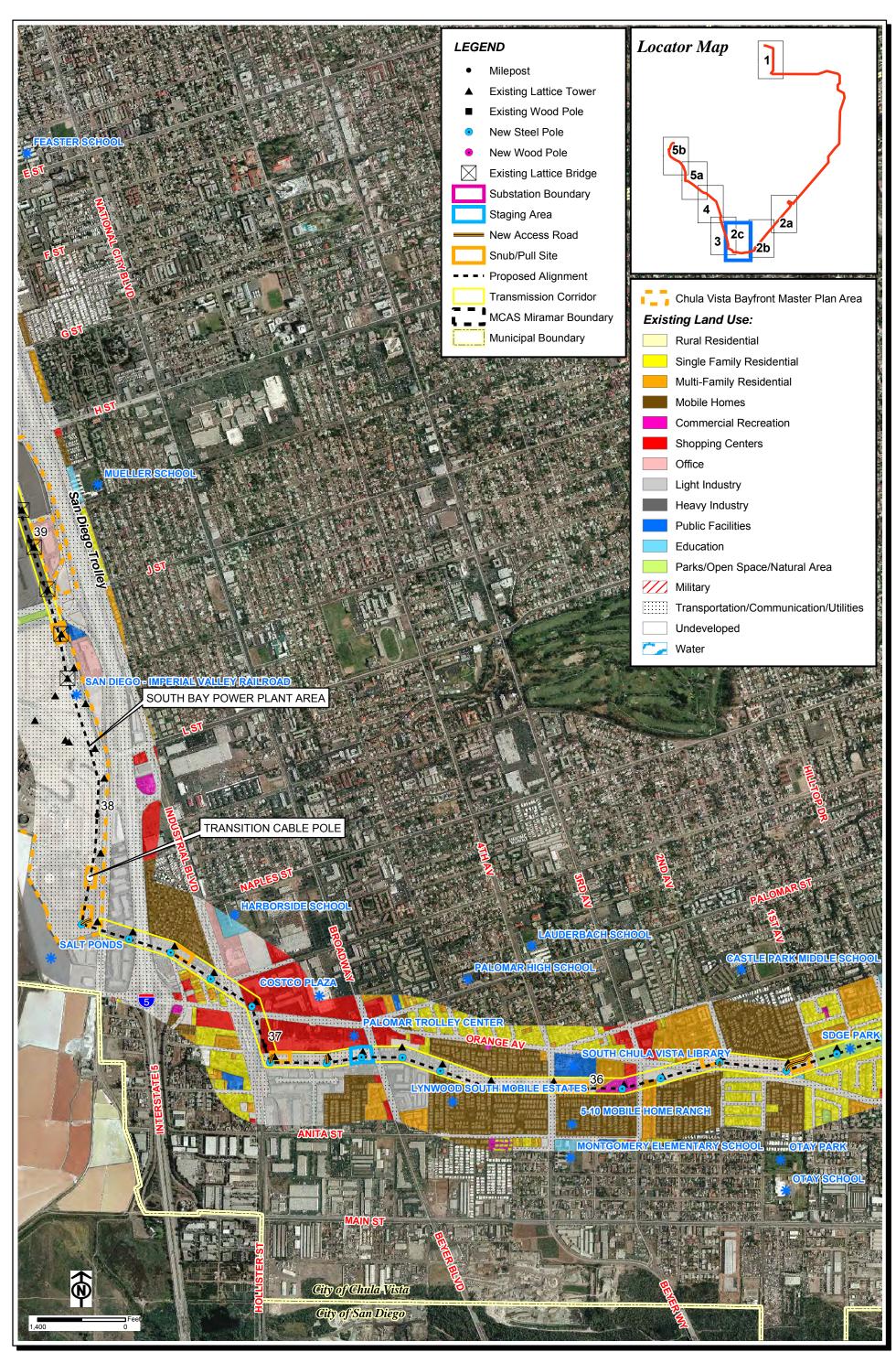
OMPPA Transmission Project EIR Existing Land Use Map 2a (Miguel to South Bay)

FIGURE



OMPPA Transmission Project EIR Existing Land Use Map 2b (Miguel to South Bay)

FIGURE







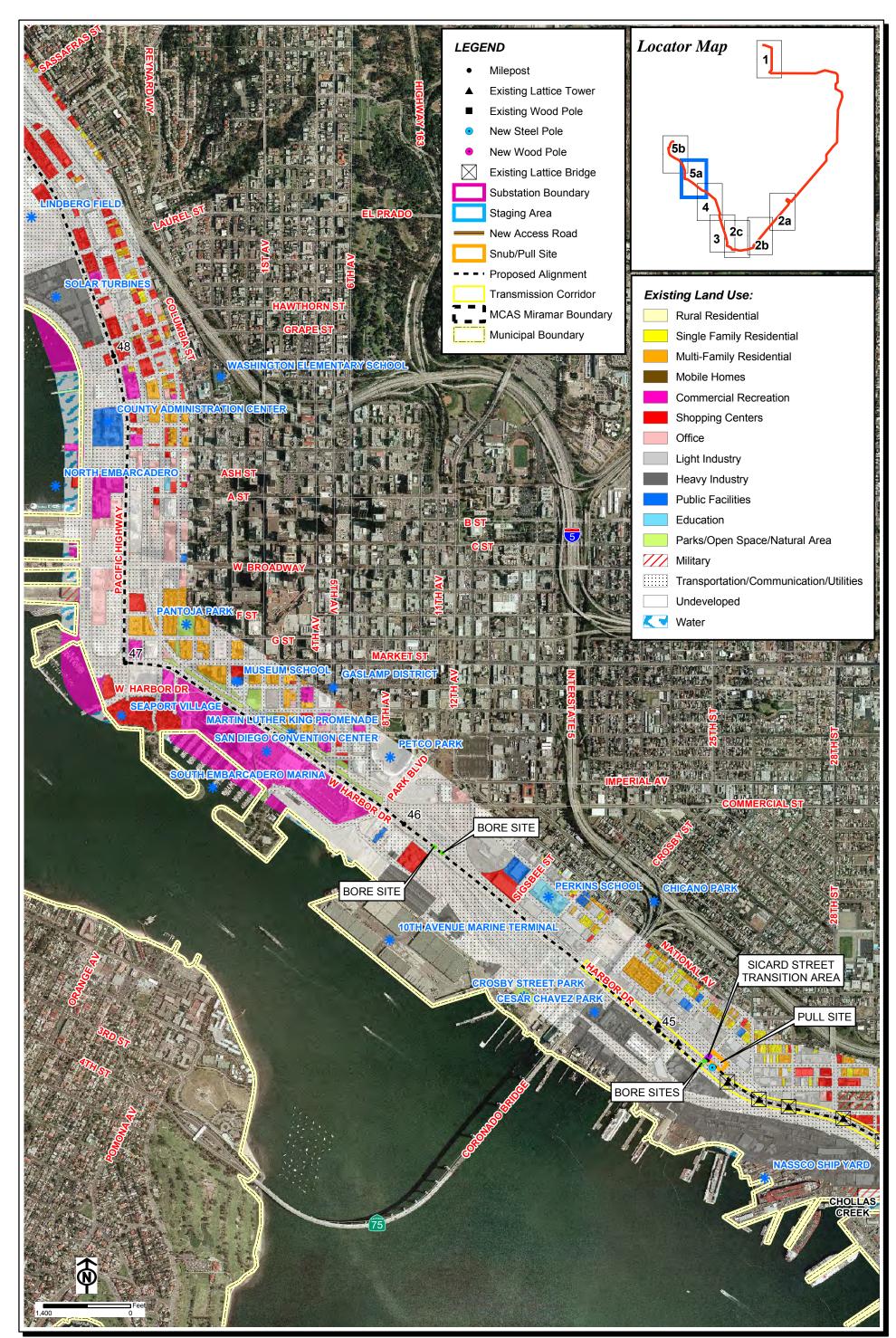
OMPPA Transmission Project EIR Existing Land Use Map 3 (South Bay to Sweetwater River)

FIGURE



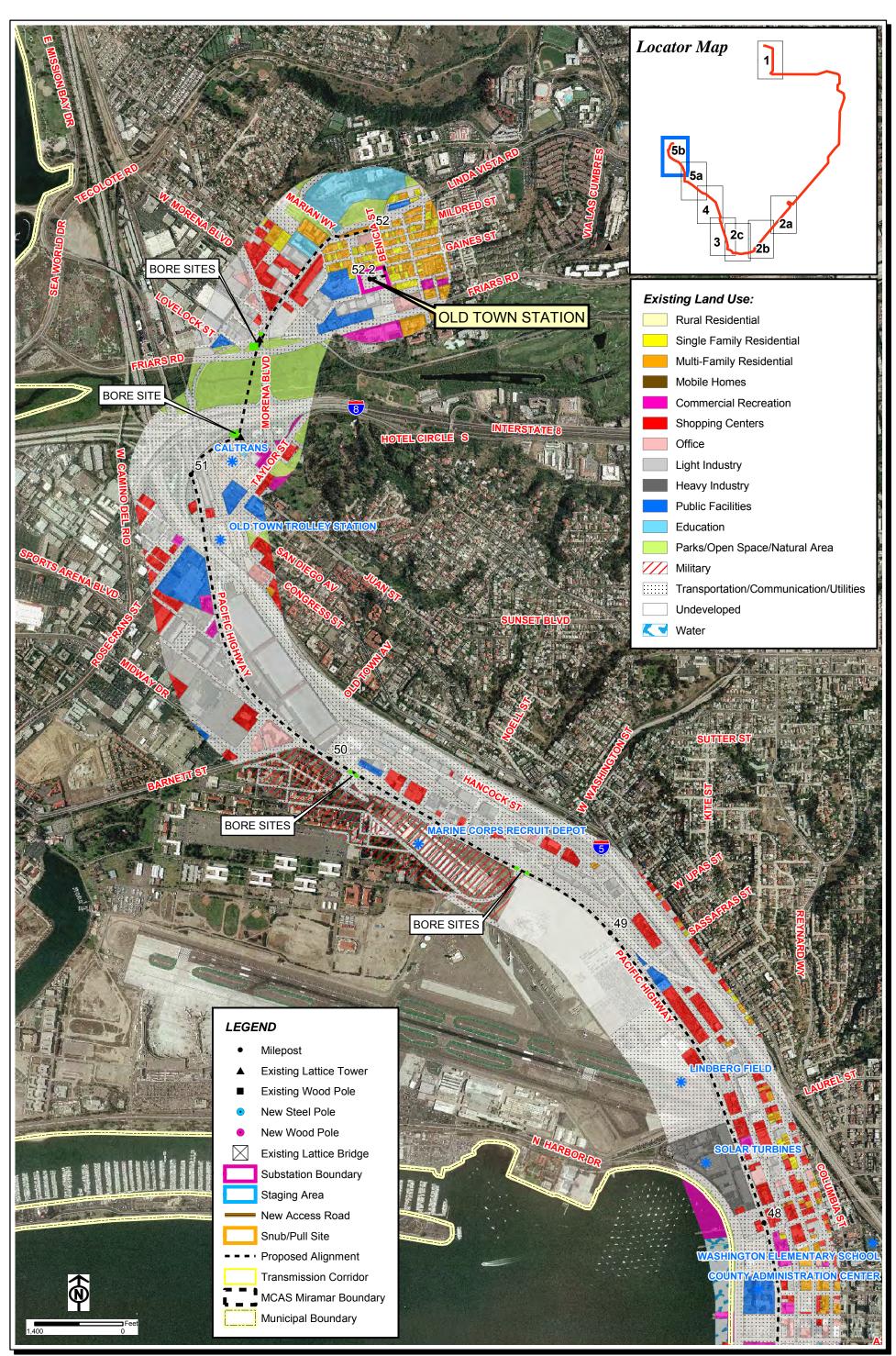
OMPPA Transmission Project EIR Existing Land Use Map 4 (Sweetwater River to Sicard)

FIGURE









OMPPA Transmission Project EIR Existing Land Use Map 5b (Sicard to Old Town)



Shopping Centers - This land use category is defined as wholesale trade (i.e., swap meet, supplies, clothes), regional shopping centers with major department stores and at least 50 tenants (i.e., Fashion Valley mall), community commercial with a major tenant like Target Center or Costco and 15 to 50 tenants, neighborhood shopping centers, specialty commercial centers (*i.e.*, Seaport Village), auto dealers, and store-front commercial.

Office – This land use type includes high rise and low rise buildings containing banking, offices for business and professional services, some retail activities and restaurants.

Light Industry – This land use is defined as industrial parks, manufacturing, auto repair services, recycling centers, warehouses, and public storage.

Heavy Industry – This land use type includes shipbuilding and aircraft manufacturing on large parcels approximately 20 to 50 acres in size. Mining, sand and gravel extraction, salt evaporation, junkyards, dumps, landfills, and auto wrecking are also classified as heavy industry.

Public Facilities – This land use category is defined as cemeteries, churches, libraries, post offices, fire/police/ranger stations, missions, hospitals, medical centers and buildings, cultural facilities, museums, art galleries, social service agencies, humane societies, historic sites and observatories.

Education – This land use includes universities, junior colleges, senior high schools, junior high schools, middle schools, elementary schools, school district offices, adult schools, day-care and nursery schools.

Park/Open Space/Natural Areas – This land use includes active parks with tennis/basketball courts, baseball/soccer fields and swings. Wildlife and nature preserves, lands set aside for open space, beaches, landscaped open space within neighborhoods such as greenbelts, and neighborhood parks.

Military - This land use category refers to defense installations, operation and maintenance facilities, weapons assembly, community support facilities, and military training and associated training facilities, training ranges and special purpose training.

Transportation/Communication/Utilities Related Uses – This land use type includes commercial airports (*i.e.*, Lindbergh Field), military airports, airstrips, rail stations, transit centers, major trolley stations, seaport terminals, freeways, TV and radio broadcasting towers and stations, electrical power generating plants, water and sewage treatment facilities, surface parking lots, parking structures, park and ride lots, railroad ROW, maintenance yards, and marine terminals.

Undeveloped – This land use category refers to vacant land.

Water – This land use category includes bays, lagoons, lakes, reservoirs and large ponds.

The following section provides a description of existing land uses according to project segment and jurisdiction.

Sycamore Canyon Substation to Fanita Junction

U.S Marine Corps Air Station Miramar

The four-mile segment from Sycamore Canyon to Fanita Junction is located within the City of San Diego and is under the ownership of the U.S. MCAS. As shown in *Figure D.7-2 Existing Land Use Map 1*, this segment starts at the Sycamore Substation (mile-post 0) and traverses in a southerly direction through undeveloped military land and open space to Fanita Junction (mile-post 4). This segment is entirely located within existing SDG&E ROW. An existing transmission line also occurs within the SDG&E ROW and several unnamed dirt roads cross the ROW.

Miguel Substation to South Bay Power Plant

The ten mile segment from SDG&E's existing Miguel Substation to the existing South Bay Power Plant is primarily located within the City of Chula Vista with a small portion located within the unincorporated San Diego County. This segment is entirely located within existing SDG&E ROW. An existing transmission line occurs within the SDG&E ROW as well as several roads and recreational parks.

Unincorporated County of San Diego

From mile-post 28.0 to mile-post 28.5 and from mile-post 29.25 to mile-post 29.75 the OMPPA Transmission Project is located within the community of Sweetwater in the unincorporated County of San Diego (*Figure D.7-2, Existing Land Use Map 2a*). With the exception of the Miguel Substation and an existing transmission line, the existing land uses within the unincorporated County portion of the proposed alignment generally consist of vacant undeveloped and open space land.

City of Chula Vista

The remainder of the Miguel Substation to South Bay Power Plant project segment is located within the City of Chula Vista where existing land uses are primarily single-family residential,

educational facilities and parks/open space (*Figures D.7-2*, *Existing Land Use Maps 2a, 2b* and 2c). As shown in *Figure D.7-2, Existing Land Use Map 2a*, the project ROW enters the City of Chula Vista near Mt. Miguel Road and runs adjacent to new single-family residential associated with San Miguel Ranch. At mile-post 29.8 south of Proctor Valley Road, the OMPPA Transmission Project passes through the neighborhood of Bonita Long Canyon. The transmission corridor continues in a southwesterly



direction and runs adjacent to Bonita Long Canyon Park, Corral Canyon/Rutgers open space corridor, office buildings, Discovery Park, and the neighborhood of Rancho Del Rey I, which includes single- and multi- family residential interspersed with commercial/office, retail shopping centers, public facilities and commercial recreation. As shown in *Figure D.7-2, Existing Land Use Map 2a* between mile-post 30.5 and 31.5, several schools and other institutional and recreational facilities are located within one-quarter mile of the proposed transmission corridor, including Bonita Vista High School, Bonita Country Day School, Bonita Vista Middle School, Riser Savior Church, and South Bay Skate Park.



As shown in *Figure D.7-2, Existing Land Use Map 2b* near mile-post 31.5, the project ROW crosses Rice Canyon and a number of residential communities including Rancho del Rey III, Telegraph Canyon North, and Sunbow I. These residential neighborhoods consist primarily of single-family residential interspersed with commercial recreation, multi-family residential, and shopping centers. Between mile-post 31.5 and mile-post 33.8 are several parks and educational/public facilities within one-quarter mile of the project ROW,

including Discovery Elementary School, Sunridge Park, Sunbow Park, Greg Rogers Elementary School, Sharpe Chula Vista Medical Center, Greg Rogers Park, and Parkview School.

As shown in *Figure D.7-2, Existing Land Use Map 2b* near mile-post 33.8, the project ROW crosses over I-805 and enters the neighborhoods of South Hilltop, East Castle Park, and West Castle Park, older residential neighborhoods of Chula Vista. The existing land uses immediately surrounding the transmission corridor from mile-post 33.8 to 35.1 primarily consists of a mixture of single-family residential, recreational and educational land uses, including Palomar Park, Palomar Elementary, Castle Park High School, Loma Verde Park, Rienstra Ballfields, and SDG&E Park.

As shown in *Figure D.7-2 Land Use Map 2c* from Hilltop Drive to Broadway (mile-post 35.3 to mile-post 36.6), mobile homes are predominant (5-10 Mobile Home Ranch and Lynwood South Mobile Estates). Educational and other recreational facilities located within one-quarter mile of the proposed transmission corridor between Hilltop Drive and Broadway include SDG&E Park, Castle Park Middle School, Otay School, Otay Park, Montgomery Elementary School, South Chula Vista Library, Palomar High School, and Lauderbach School.

From Broadway to I-5, the proposed OMPPA Transmission Project crosses through the Southwest Redevelopment Project Area. As shown in *Figure D.7-2 Existing Land Use Map 2c*, existing land uses are characterized by light industrial, Costco Plaza, and Palomar Trolley Center. Mobile homes occur between Industrial Boulevard and I-5. Harborside School is located within one-quarter mile of the proposed transmission corridor. West of I-5, the OMPPA Transmission Corridor crosses over Bay Boulevard and the San Diego & Imperial Valley Railroad and turns north generally paralleling the railroad tracks towards the South Bay Power Plant Area.

South Bay Power Plant Area to Sweetwater River Transition Area

The three mile segment from the existing South Bay Power Plant to the Sweetwater River Transition Area is located within the City of Chula Vista. This segment is primarily located within existing SDG&E ROW.

City of Chula Vista

As shown in *Figure D.7-2 Existing Land Use Map 3* from the South Bay Power Plant Area, the OMPPA Transmission Corridor transitions underground near the South Bay Power Plant and continues underground, parallelling the San Diego Imperial Valley railroad tracks on the west side of I-5. Land uses along the Chula Vista Bayfront include the South Bay Power Plant, salt evaporation ponds, heavy industrial (former and current Goodrich properties), Chula Vista Harbor, Marina View Park, undeveloped private land (Midbayfront property),



Chula Vista Nature Center and the Sweetwater Marsh National Wildlife Refuge. The proposed OMPPA Transmission Project transitions aboveground on the south side of the Sweetwater River and crosses over the river where it enters the City of National City at approximately mile-post 40.9. Schools located within one-quarter mile of the proposed transmission corridor between the South Bay Power Plant (mile-post 39.0) and the Sweetwater River (mile-post 40.9) include the

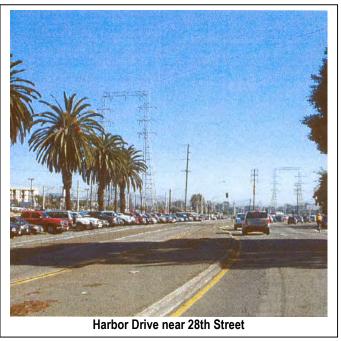
Mueller School and Feaster School. Other open space and recreational land uses within the vicinity include the Chula Vista Wildlife Preserve, Chula Vista Bayfront Park, and Bayside Park.

Sweetwater River Transition Area to Sicard Street Transition Area

The four mile segment from the Sweetwater River to the Sicard Street Transmission Area is located within the City of National City and the City of San Diego. This segment is entirely located within existing SDG&E ROW.

City of National City

As shown in Figure D.7-2 Existing Land Use Map 4, from mile-post 40.9 the proposed OMPPA Transmission Project continues north through National City, running parallel to the railroad tracks, and crosses over Pepper Park and U.S. Naval Station-San Diego. Land uses generally consist of light industrial and commercial uses from approximately 30th Street to 24th Street/Mile of Cars From 24th Street to Plaza Way. Boulevard, the proposed transmission corridor travels north through the Westside Specific Plan Area, an area characterized by a mixture of autooriented businesses, older residential,



and civic uses. At Civic Center Drive, the transmission corridor crosses to the west side of I-5 (mile-post 42.3) and continues to parallel the MTS trolley tracks. From 8th Street to the city limits, surrounding land use includes the 32nd Street Naval Air Station. As shown in *Figure D.7-2 Existing Land Use Map 4* within National City between mile-post 40.9 and 43.1, Kimball School, Kimball Park, and National City Public Library are located within one-quarter mile of the transmission corridor.

City of San Diego

As shown in *Figure D.7-2 Existing Land Use Map 4* from Division Street (mile-post 43.1) to the Sicard Street Transition Area, the OMPPA Transmission Project corridor is located within the City of San Diego. From Division Street to 28th Street, the transmission corridor heads northwest along the MTS trolley tracks and crosses through 32nd Street Naval Air Station and

over Chollas Creek. From 28thnd Street to the Sicard Street Transition Area, the transmission corridor crosses into the community of Barrio Logan and areas characterized by heavy industrial uses (Nassco shipyard), light industry, and commercial.

Sicard Street Transition Area to Old Town Substation

As illustrated in *Figures D.7-2 Map 5a* and *5b*, the proposed Sicard Street to Old Town Substation segment is located entirely within paved roadway located within the City of San Diego.

City of San Diego

As shown in *Figure D.7-2, Existing Land Use Map 5a,* the 230 kV overhead transmission line transitions underground in a parking lot at Sicard Street. Once underground the transmission corridor heads west to Harbor Drive where it continues in a northwesterly direction to Park Boulevard (mile-post 46.0). Along this stretch of the underground corridor, land uses include 10th Avenue Marine Terminal, light industry, railroad yard, parking lots and commercial. Between Sicard Street and Park Boulevard, Perkins Elementary School, Crosby Street



Park, Chicano Park, Cesar Chavez Park, Coronado Bridge are within one-quarter mile of the underground transmission line in Harbor Drive.

The OMPPA Transmission Project enters the Center City Community at Park Boulevard. Land uses in the downtown area of San Diego between mile-post 46.0 and 47.0 include a mixture of commercial office, hotel, retail shopping, recreation and high-density residential (*Figure D.7-2, Existing Land Use Map 5a*). Petco Park, San Diego Convention Center, the Historic Gaslamp District, Hyatt Regency Hotel, Martin Luther King Jr. Promenade, South Embarcadero marina, and Seaport Village are located along Harbor Drive. The Museum School is located within one-quarter mile of the transmission corridor.

As shown in *Figure D.7-2, Existing Land Use Map 5a*, at Harbor Drive and Pacific Highway (mile-post 47.0) the underground transmission corridor turns north and passes through the North Embarcadero area. This area is characterized by high rise condominiums, County Administration Center, parking lots, hotels and restaurants. Industrial uses associated with Solar

Turbines are located at Pacific Highway and Laurel Street. Washington Elementary School is located within one-quarter mile of the transmission corridor.

As shown in *Figure D.7-2 Existing Land Use Map 5b*, at mile-post 48.4 the OMPPA Transmission Project enters the Midway/Pacific Highway Corridor at Laurel Street and Pacific Highway. The San Diego International Airport and supporting long-term parking lots are located along this portion of Pacific Highway. Other land uses occurring north of the airport along Pacific Highway include light industry, Marine Corps Recruit Deport, commercial office, and parking lots.

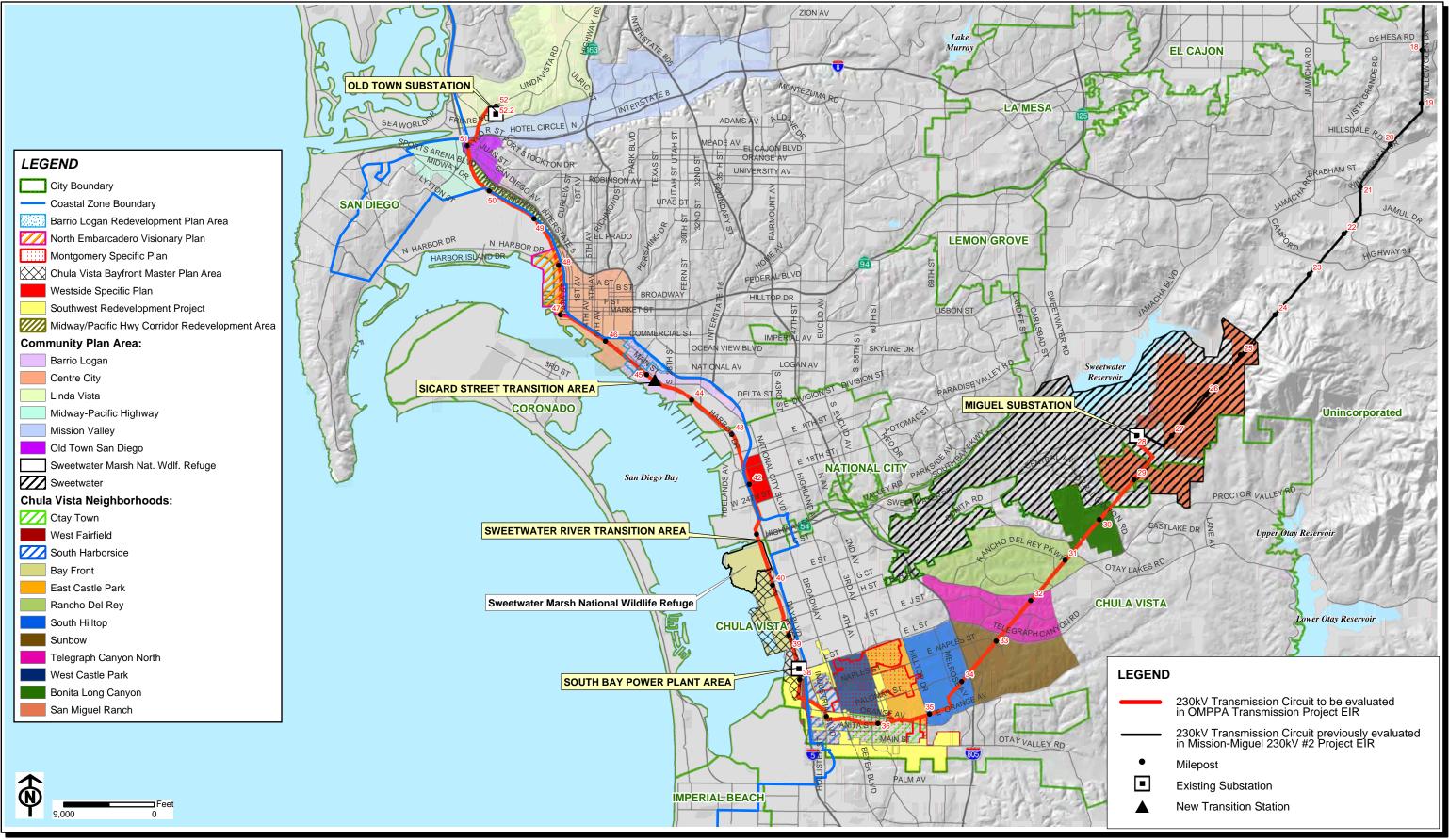
At mile-post 50.9, the OMPPA Transmission Corridor continues underground within Pacific Highway, crosses under the I-5 and enters the community of Historic Old Town. Land uses immediately adjacent to the transmission corridor include commercial, light industry and Caltrans offices (*Figure D.7-2, Existing Land Use Map 5b*). The historic areas of Old Town located to the east of the transmission corridor consist of museums, shops, restaurants and hotels. The Old Town Transit Center is located along Pacific Highway.

The OMPPA Transmission Corridor continues north from Old Town under the San Diego River and surfaces at Greenwood Street in the community of Linda Vista. The transmission corridor travels in a northeasterly direction within Linda Vista Road and passes through the commercial areas associated with Morena Boulevard, several fast food restaurants and University of San Diego. At mile-post 51.9, the transmission corridor turns onto Mildred Street, which is flanked by multi-family residential (*Figure D.7-2, Existing Land Use Map 5b*). At mile-post 52.0, the transmission corridor travels south on Benecia for a short distance until it terminates at the Old Town Substation.

D.7.1.2 Planned Land Uses

Planned land uses are defined by long-range planning documents, such as general plans, community plans, specific plans, and zoning ordinances, which guide future development and growth patterns within a given jurisdictional planning area. *Section D.7.2, Applicable Regulations, Plans and Standards*, summarizes the land use policies described in long-range planning documents that are relevant to development of the OMPPA Transmission Project.

This section focuses on future land use plans and designations as mapped by SANDAG and as described in the Sweetwater Community Plan, Chula Vista General Plan, National City General Plan, Barrio Logan Community Plan, Center City Community Plan, Midway/Pacific Highway Corridor Community Plan, Old Town San Diego Community Plan and the Linda Vista Community Plan. *Figure D.7-3* illustrates the locations of the various communities, neighborhoods, redevelopment areas, and specific plan areas through which the OMPPA



BASE MAP SOURCE: SANDAG, SDG&E, City of Chula Vista, City of San Diego

OMPPA Transmission Project EIR Community Neighborhood Planning Areas



Transmission Project crosses. In addition to the general plans and community plans, other planning documents addressing future land use plans, including the North Embarcadero Visionary Plan, Port Master Plan, Montgomery Specific Plan, and Chula Vista Bayfront Master Plan were reviewed.

Sycamore Canyon Substation to Fanita Junction

U.S Marine Corps Air Station Miramar

From mile-post 0 to 4, planned land uses from Sycamore Canyon Substation to Fanita Junction are substantially the same as existing land uses shown in *Figure D.7-2 Existing Land Use Map l* and are designated as military, open space, and utility.

Miguel Substation to South Bay Power Plant

County of San Diego

From mile-post 28.0 to mile-post 28.5 and from mile-post 29.25 to mile-post 29.75 the OMPPA Transmission Project is located within the community of Sweetwater in the unincorporated County of San Diego. Planned land uses adjacent to the OMPPA Transmission Project within the County of San Diego are substantially the same as existing land uses shown in *Figure D.7-2 Land Use Map 2a* and include utilities, parks and open space.

The OMPPA Transmission Project ROW would cross through the Eastern Bonita Specific Planning Area, which comprises approximately 3,282 acres to the east of Proctor Valley Road, south of the Sweetwater Reservoir and north of Eastlake Development in Chula Vista (County of San Diego 1993). The site has varied terrain, with some areas in excess of 50% slope. Areas adjacent to the OMPPA Transmission corridor have been designated as open space/natural area. The area is currently undeveloped with no roads or services.

City of Chula Vista

From mile-post 28.5 to mile-post 29.25 and from mile-post 29.75 to mile-post 41.0, the OMPPA Transmission Project is located within the City of Chula Vista, where planned land uses are substantially the same as existing land uses shown in *Figures D.7-2, Existing Land Use Maps 2a, 2b,* and 2c.

Planned land uses from the Miguel Substation (mile-post 28.0) to I-805 (mile-post 33.8) primarily include single-family residential with commercial recreation, office, educational, parks and open space interspersed. Multi-family residential, utilities, communication and industrial

land uses are also designated along this portion of the transmission corridor. In a couple of areas along the portion of the transmission corridor from the Miguel Substation (mile-post 28.0) to I-805 (mile-post 33.8), the existing land use is different than the planned land use. North of Proctor Valley Road (mile-post 29.3), existing undeveloped land is designated as single-family residential associated with San Miguel Ranch and north of East H Street (mile-post 31.8), existing undeveloped land is designated as park/open space/natural area.

From I-805 west to I-5 (mile-post 33.75 to mile-post 37.5), planned residential land uses consist of single-family, multi-family and mobile homes. This area also includes heavy and light industrial uses, educational institutions, commercial, office, retail shopping center, parks and open space, and transportation/communication/utilities related land uses. Areas where the existing land use differs from the planned land use include the following: southeast of 3rd Avenue and Orange Avenue near mile-post 35.9, existing undeveloped land is designated as park/open space/natural area; and southeast of Broadway and Orange Avenue near mile-post 36.6, existing undeveloped land is designated as shopping center.

No substantial changes between existing and planned land uses occur from west of I-5 to the South Bay Power Plant, which currently consist of heavy and light industrial uses, utility, transportation, and extractive industrial uses (salt ponds).

In addition to the planned land use designations, other planning documents applicable to the OMPPA Transmission Project that address future land use include the Chula Vista Greenbelt Master Plan; Greenbelt, Open Space and Recreation section of the Land Use Element of the Chula Vista General Plan; Montgomery Specific Plan; and the Southwest Redevelopment Project Area (*Figure D.7-3*). These planning documents as they relate to utilities are described below.

CHULA VISTA GENERAL PLAN. The Land Use section of the General Plan identifies greenbelts, open space and trail systems within the City. Objectives are outlined in the General Plan, which call for the preservation of natural open spaces and corridors and for connections to be provided that would extend the greenbelt and trail systems into the community (City of Chula Vista 1995). The OMPPA Transmission Project would cross over or would parallel the following designated open space areas:

- SDG&E Open Space Corridor: this corridor utilizes the SDG&E's east-west easement, which crosses through the southern portion of the City from the greenbelt at Bay Boulevard to areas east of I-805.
- Medical Center Drive/Brandywine Avenue Greenway: this connection is a wide street with substantial landscaping extending from the future community emerging around Chula Vista Community Hospital and Greg Rogers Park and the Greenbelt.

- Corral Canyon/Rutgers Corridor: this northwest to southeast trending open space corridor extends along Corral Canyon Road and Rutgers Avenue.
- Rice Canyon: this open space area connects the Terra Nova Activity Center near I-805 and H Street to the Southwestern College Community Activity Center via neighborhood parks.

MONTGOMERY SPECIFIC PLAN. The Montgomery Community was annexed by the City of Chula Vista in 1985 and the Montgomery Specific Plan was adopted in 1988. The purpose of the Montgomery Specific Plan is to provide a detailed guide for the orderly growth, development, redevelopment and conservation of the Montgomery Community. The Specific Plan encompasses an approximately 3.5 square miles in the southwesterly part of the city and is bounded by I-5 to the west, L Street to the north, I-805 to the east and San Diego city limits to the south.

The Montgomery Community has evolved from a rural community to a densely populated one characterized by a mix of land uses. However, public and private improvements have not kept pace with its population growth and land use patterns. As a result, areas within the Montgomery Specific Plan are in decline and require revitalization and enhancement to improve aesthetics, infrastructure, public amenities, and traffic circulation.

Several planning and design proposals for open space and parks have been identified for the portion of the SDG&E ROW that crosses the Montgomery Specific Plan. These proposals include the following:

- SDG&E ROW crosses the central spine of Montgomery, in an east-west direction. This crossing presents an opportunity to establish a greenbelt in an area that is substantially built out. Therefore, where feasible, it is proposed that the SDG&E ROW be reserved and improved for public parks or open space.
- The SDG&E ROW could accommodate a broad spectrum of recreational uses, including bike and pedestrian paths, plant nurseries and arboreta, community gardens, and related off-street parking.

AMENDED AND RESTATED REDEVELOPMENT PLAN – MERGED CHULA VISTA REDEVELOPMENT PROJECT. The Amended and Restated Redevelopment Plan represents the redevelopment plan for a number of redevelopment areas, including the Southwest Redevelopment Project Area (see *Figure D.7-3*). The Southwest Redevelopment Project Area is comprised of the 1,050 acres located in the southwestern portion of the City. It consists of the commercial and industrial properties along I-5, Broadway Avenue, south Third Avenue and Main Street corridor. The Amended and Restated Redevelopment Plan was adopted May 2004 by the Chula Vista City Council and supersedes previous redevelopment plans for the Southwest Redevelopment Project Area.

SOUTHWEST REDEVELOPMENT PROJECT AREA – FIVE YEAR IMPLEMENTATION PLAN FOR 2000-2004. In accordance with the requirements of Section 33490 of the Health and Safety Code, a redevelopment agency must develop an implementation plan for a redevelopment area every five years. The implementation plan is a flexible policy document and not intended to be a limitation on the redevelopment agency's activities in the project area. The Implementation Plan for Southwest Redevelopment Project Area identifies a number of goals and objectives, which focus on the removal of blighting conditions, improving business and economic` activity, providing improvements to community facilities, and improving vehicular and pedestrian circulation systems. In order to achieve these goals and associated objectives, the Redevelopment Agency has identified eight redevelopment projects and programs that could begin the process of blight elimination. These projects range from providing funding or financial incentives to improve the appearance of buildings to streetscape improvements along Main Street to providing planning assistance in the Otay Regional Park area.

South Bay Power Plant Area to Sweetwater River Transition Area

City of Chula Vista

From the South Bay Power Plant to the city boundaries with National City, planned land uses are similar to existing land uses in several areas as shown in *Figure D.7-2, Existing Land Use Map 3*, including the Sweetwater Marsh National Wildlife Refuge and the visitor and park areas associated with the marina.

Areas where the existing land use differs from the planned land use include the area known as the Midbayfront Property (near mile-post 40) and the remaining bayfront area from Midbayfront to the South Bay Power Plant. The Midbayfront, which is currently undeveloped, and the remaining bayfront area, which is currently a mixture of industrial and energy related uses, have been subject to several long-term planning efforts, including the Chula Vista Local Coastal Program Land Use Plan, Bayfront Specific Plan, Bayfront Redevelopment Project, and Chula Vista Bayfront Master Plan (*Figure D.7-3*). In general, the Chula Vista bayfront would change from a site primarily occupied by industrial/energy related uses and undeveloped areas to a site with a wide range of planned land uses including hotels, residential, commercial, visitor, recreational, resort, administrative/professional and industrial.

Planned land uses and future projects, as described in various planning documents for the Chula Vista Bayfront, are summarized below.

CHULA VISTA LOCAL COASTAL PLAN – LAND USE PLAN. The LCP for Chula Vista, certified by the Coastal Commission in 1993, is intended to provide a detailed plan for the orderly growth, development, redevelopment, and conservation of the Chula Vista Local Coastal Zone. Land use objectives/policies pertaining to the Midbayfront area provide for development of mixed uses that combine visitor support services for commercial/recreational uses, with public parks and high density residential uses. Industrial related land uses would be discouraged from the Midbayfront area. Industrial uses would continue to occur where it currently exists, generally south of G Street; however, new industrial development in other areas would not be permitted. Commercial uses are planned for within the Midbayfront area and along the I-5 corridor. A number of park and recreation, as well as open space/wildlife refuge type of uses are proposed throughout the bayfront area. These areas include the Sweetwater Marsh National Wildlife Refuge, Chula Vista Nature Center, wetlands adjacent to the Refuge, and Chula Vista Marina.

BAYFRONT SPECIFIC PLAN-COASTAL DEVELOPMENT APPLICATION PERMIT PROCEDURES MANUAL. The Bayfront Specific Plan was adopted in September 1985 by the Chula Vista Redevelopment Agency and is a component of the City's General Plan. This specific plan has been prepared consistent with the California Coastal Act and serves as the implementation component of the LCP for the Chula Vista bayfront area. The procedures described in the Bayfront Specific Plan are intended to expedite the processing of public and private plans and proposals for the redevelopment of the bayfront area. These procedures include methods for permit application, as well as for permit exemptions and appeals. The implementation program of the Bayfront Specific Plan and Chula Vista LCP has been codified as part of the Municipal Code Title 19, Zoning, Chapter 19.

BAYFRONT REDEVELOPMENT PROJECT AREA – FIVE YEAR IMPLEMENTATION PLAN FOR 2000-2004. In accordance with the requirements of Section 33490 of the Health and Safety Code, a redevelopment agency must develop an implementation plan for a redevelopment area every five years. The implementation plan is a flexible policy document and not intended to be a limitation on the redevelopment agency's activities in the project area. The Implementation Plan for the Bayfront Redevelopment Project Area includes, among other items, a description of existing blighting conditions, goals and objectives; programs, projects and expenditures for the next five years; and an explanation of nexus between the redevelopment agency's activities and the elimination of blight. This implementation plan is intended to guide redevelopment activities and identify priority programs and projects to eliminate conditions of blight.

The original Bayfront Redevelopment Project Area comprised 637 acres and was established in 1974. In 1998, the redevelopment project area was amended to include an additional 398 acres of tidelands under the jurisdiction of the San Diego Unified Port District. The redevelopment project areas currently encompass property west of I-5 to San Diego Bay and from SR-54 south to L Street (see *Figure D.7-3*). It includes the area known as the Midbayfront and former

Goodrich properties. Major programs and projects proposed over the next five years are briefly described below.

- Development of the Midbayfront to include a mix of hotel, residential, entertainment/retail, office, and park and open space uses.
- Clean-up of contaminated properties on several properties owned by the redevelopment agency.
- Facilitation of the redevelopment of Port-owned properties including the SDG&E plant and the Goodrich properties located south of H Street.
- Extension of H Street and Realignment of Marina Parkway to improve circulation and access to the bayfront area.
- Abandonment of the Coronado Branch rail that bisects the entire length of the bayfront to improve circulation. This unused rail line is an impediment to redevelopment.

CHULA VISTA BAYFRONT MASTER PLAN. The Chula Vista Bayfront Master Plan (CVBMP) is a joint planning document prepared by the City of Chula Vista and Port of San Diego. The planning process began in June 2002 and the goals of the CVBMP planning effort were to develop a master plan for a world-class waterfront in an area totaling nearly 300 acres. The planning process, as directed by the Board of Port Commissioners and the Chula Vista City Council, involved substantial public participation, investigation into the feasibility of replacing the South Bay power plant, investigation into siting a desalination plant adjacent to a new replacement power plant, and investigation into expediting the completion of H Street and the removal and remediation of the Goodrich properties. A Joint Planning Agreement between the Port of San Diego and City of Chula Vista was approved in October 2002. In March 2004 the Board of Port Commissioners and the Chula Vista City Council amended the Joint Planning Agreement to incorporate the lands known as the "Midbayfront Properties" into the CVBMP project area. With the addition of the Midbayfront, the CVBMP project area encompasses a total of 548 acres.

The Port of San Diego and City of Chula Vista conducted an extensive public outreach and participation program, which involved 15 Citizen Advisory Committee (CAC) meetings, seven South Bay Power Plant Working (SBPP) Group meetings, seven public workshops and the distribution of newsletters and establishment of a CVBMP webpage. The role of the CAC was to allow for constructive exchange of ideas with a diverse group of interested citizens and community groups. The CAC reviewed consultant deliverables and made recommendations, which ultimately culminated in a preferred land use concept. The purpose of the SBPP meetings was to focus on the issues associated with the 150-acre power plant. This working group identified options for the power plant and adjacent infrastructure and presented them to the Port and CAC. The public workshops provided a forum to inform the public and policymakers on the CVBMP progress.

Three draft land use plans were presented to the Board of Port Commissioners, Chula Vista City Council and the Redevelopment Agency of Chula Vista on May 25, 2004 with Land Use Plan Option C receiving approval to proceed with preparation of design guidelines, financial feasibility program and the environmental review document. Land Use Plan Option C identifies three distinct planning areas: Sweetwater District (northern section; formerly known as the Midbayfront properties), Harbor District (middle section), and the Otay District (southern section). Under Option C, the Sweetwater District is proposed to contain the lowest intensity development and is focused on lower scale, environmentally sensitive uses, such as a large ecological buffer, or hotel or office use. The Harbor District is proposed to provide for the highest intensity development and would include mixed uses, such as hotel, recreational vehicle park, cultural park, fishing pier, marina, and residential. The Otay District proposes medium intensity development and may include residential and industrial/power plant generating facilities.

The SBPP Working Group recommended two alternatives for the South Bay power plant site. Alternative A consists of closing the existing power plant as soon as possible; moving the switchyard to the southernmost portion of the Otay District; and undergrounding all current and future transmission lines on the bayfront. Alternative B involves the following: building a new power plant; moving the switchyard to a new site; placing all current and future transmission lines underground; and creating an ownership/funding mechanism to achieve Alternative B.

On October 12, 2004, the City of Chula Vista and SDG&E entered into a Memorandum of Understanding (MOU) for providing specific community-wide benefits associated with gas and electric facilities in implementing the Chula Vista Bayfront Master Plan (CVBMP). The MOU acknowledges the redevelopment plans for the Chula Vista bayfront, including plans for scenic entryways, habitat viewing areas, parks and recreational opportunities and enhanced aesthetic resources. Key objectives to achieving these plans are undergrounding electric utilities along the Chula Vista Bayfront including the existing 69 kV transmission line on wooden poles, 138 kV lines on supporting steel lattice bridge structures, high voltage insulators, overhead conductors, and vaults as well as future electric transmission projects such as the OMPPA Transmission project. In addition, it would involve removing the existing lattice bridge structures.

Sweetwater River Transition Area to Sicard Street Transition Area

City of National City

Planned land uses along the portion of the OMPPA Transmission Project Corridor located in the City of National City include a wide range of uses and are substantially the same as existing land use shown in *Figure D.7-2 Existing Land Use Map 4*. From the southern city limits to West 24th Street/Mile of Cars Way, land uses are designated as heavy and light industry east of I-5 and as

park and open space and recreation west of I-5. From West 24th Street/Mile of Cars Way north to 8th Street, planned land uses include a mixture of single-family, multi-family residential, light and heavy industry, educational institutions, commercial recreation and transportation/ communication/utilities related uses. North of 8th Street, planned land uses are solely military. Areas where existing land use differs from future land use plans include the existing undeveloped area associated with Pepper Park (mile-post 41). Future land use plans designate this area as commercial recreation.

The portion of National City west of National City Boulevard, east of I-5, north of Mile of Cars Way and south of Plaza Boulevard is within the Westside Specific Plan area (*Figure D.7-3*). This area is currently undergoing planning efforts to redevelop this highly urbanized section of National City.

City of San Diego

Planned land uses within the City of San Diego along this project segment are substantially the same as the existing land uses shown in *Figure D.7-2, Existing Land Use Map 4*. Planned land uses along Harbor Drive from the southern city limits (mile-post 43.0) to 32nd Street (mile-post 43.8) include mainly military land uses. In the Barrio Logan Community, from 32nd Street (mile-post 43.8) north to the Sicard Street Transition Area (mile-post 44.8) along Harbor Drive, the majority of the land uses are designated as heavy and light industry. Other planned land uses include commercial, transportation facilities, multi-family residential, single-family residential and institutional. No substantial changes between existing and future land uses have been planned for in this area.

Sicard Street Transition Area to Old Town Substation

City of San Diego

The proposed Sicard Street to Old Town Substation project segment is located entirely within the City of San Diego within existing roadways. Planned land uses are substantially the same as existing land uses shown in *Figure D.7-2, Existing Land Use Maps 5a* and *5b*.

From the Sicard Street Transition Area to 12th Avenue (mile-post 44.8 to mile-post 46.0), planned land uses within the Barrio Logan Community are designated as commercial, residential (single-family and multi-family), transportation/communication/utilities related, and institution. As shown in *Figure D.7-3*, the OMPPPA Transmission Project would cross through an area designated as the Barrio Logan Redevelopment Area, which generally includes the areas south of I-5, west of 16th Street, east of Evans Street and north of Bayfront (City of San Diego 1993).

In the downtown area from 12th Avenue (mile-post 46.0) to Laurel Street (mile-post 48.3) along the transmission corridor, planned land uses are primarily commercial, recreation, office and multi-family housing. In several areas along this portion of the transmission corridor, existing land uses differ from planned land uses. North of the Coronado Bridge and Harbor Drive intersection, existing undeveloped land is designated as a shopping center; north of the 10th Avenue Marine Terminal undeveloped and transportation related land uses are planned to be converted to office and commercial recreation; north of Seaport Village (mile-post 47.0) an existing undeveloped and parking lots currently exist, future land use plans identify additional office, multi-family residential and parks.

From Laurel Street to the Old Town area along Pacific Highway, planned land uses consist of transportation facilities (Lindbergh Field), heavy and light industrial uses, military (Marine Corps Recruit Depot), transportation/communication/utilities related and commercial. As shown in *Figure D.7-3*, this portion of the OMPPA Transmission Project crosses through the North Bay Redevelopment Area of the Midway/Pacific Highway Corridor Community Plan (City of San Diego 1991, amended 1999). No substantial changes between the existing land use and planned land use occur along this portion of the project.

From the community of Old Town to the Old Town Substation, the OMPPA Transmission Project Corridor would cross the following planned land uses: park and open space (San Diego River), commercial, transportation/communication/utilities related and multi-family residential. These planned land uses do not represent a substantial change from existing land uses.

Planned land uses along the proposed alignment within Pacific Highway between Laurel Street and Harbor Drive (mile-post 47 to 48.5) are also discussed in the North Embarcadero Visionary Plan area (see *Figure D.7-3*). This planning document is summarized below.

NORTH EMBARCADERO VISIONARY PLAN. The North Embarcadero Visionary Plan (NEVP) is a collaborative planning effort by the Centre City Development Corporation (CCDC), City of San Diego, San Diego Unified Port District, County of San Diego and U.S. Navy. The NEVP is a revitalization plan for San Diego's bayfront area, extending from Lindbergh Field to the north to Seaport Village to the south and west of Pacific Highway. The NEVP establishes the location and character of public amenities; the circulation pattern and parking strategy to support development and public access; and commercial and residential development.

Open space and public amenities elements of the NEVP include creating an expansive, pedestrian-oriented Esplanade along the bayfront, at least 100 feet wide; creating a pedestrian-oriented public precinct at the County Administration Building; constructing a new recreation pier (Grape Street Pier); creating a pedestrian-oriented public precinct at the foot of Broadway;

establishing 'B' Street pier as a commercial pier; establishing Broadway Pier as a civic pier with a park and fountain; establish Navy Pier as a cultural pier with a park, multi-purpose outdoor space, and Navy orientation center; and creating an "oval park" at the foot of Broadway, approximately two city blocks in size.

The NEVP identifies a number of circulation and public access proposals. The Plan calls for the reduction of traffic lanes on Harbor Drive to provide a 100-foot bayfront esplanade, park space, recreational opportunities, and an overall beautification program that will be jointly implemented by the Port District and CCDC. The "greenspine" adjacent to the waterfront is made possible by an improved Pacific Highway that will be expanded to its full 130-foot ROW to accommodate increased traffic volumes and parking. Because of the considerable width of the expanded Pacific Highway, the NEVP schematic design calls for a wide, planted median. The median is intended to retain a pedestrian environment to connect the waterfront to the downtown neighborhoods. The ability to plant the median with trees is an integral component to retaining walkability in the area.

D.7.1.3 Proposed Land Uses

Proposed land uses consist of specific development proposals, which have been recently approved or are currently under consideration for approval by governmental agencies. Information regarding proposed land use was obtained through personal communication with planning staff of the City of San Diego, Center City Development Corporation, Unified Port of San Diego and City of National City. The following proposed projects would be located within or adjacent to the proposed OMPPA Transmission Project corridor.

<u>Caltrans</u>

I-805 and I-5: Both I-805 and I-5 are primarily north-south trending freeways that are maintained by Caltrans. The OMPPA Transmission Project crosses I-805 at Palomar Street (mile-post 33.75) in Chula Vista. Caltrans, in collaboration with the City of Chula Vista, is currently in the planning stages for improvements to the I-805 and Palomar Street interchange. Construction is anticipated to be completed in 2006/2007 (City of Chula Vista 2004). The proposed transmission corridor crosses I-5 three times: at Naples Street (mile-post 37.5), at 30th Street in National City (mile-post 41.3) and Civic Center Drive (mile-post 42.3). I-5 is proposed to be widened from 24th Street/Mile of Cars Way to Harbor Drive to accommodate two additional freeway lanes (SANDAG 2004a). This freeway widening project is in the design phase.

SR-125: Caltrans is currently constructing SR-125, a 12 mile highway extending from SR 905 near the International Border to SR 54 near the Sweetwater Reservoir. Initially, this new

highway would operate as a toll road, with an anticipated opening by 2006. The overhead portion of the OMPPA Transmission Project would cross over SR 125 where the new highway would intersect Mount Miguel Road (mile-post 28.4) and Proctor Valley Road (mile-post 29.3).

City of Chula Vista

East Side Library Construction: A new 36,392 acre library is proposed in the Rancho del Rey area at East H Street and Paseo Ranchero in the City of Chula Vista. Construction would begin in 2004/2005 and would be completed by 2006/2007 (City of Chula Vista 2004).

Veteran's Park (Sunbow Park) Project: The City of Chula Vista is planning to improve this park with the addition of a soccer field, two basketball courts, a community center, a playground, and lawns. The OMPPA Transmission project crosses Sunbow Park at approximately mile-post 33.0.

Greg Rogers Park Improvements Phase I-IV: The City of Chula Vista is planning to improve Greg Rogers Park by renovating irrigation systems, restrooms, and performing other upgrades to the park's facilities. The OMPPA Transmission project crosses Greg Rogers Park at approximately mile-post 33.75.

City of San Diego

Harbor Drive Trunk Sewer: The City is proposing to upgrade and rehabilitate an existing, decaying 8-inch trunk sewer within Harbor Drive from 28th Street to Park Boulevard. Construction is anticipated to begin in December 2005 and conclude January 2007. The proposed OMPPA Transmission Project would be located underground along this portion of Harbor Drive.

Pacific Highway Water Main Replacement (Water Group 532): The City is proposing to replace water mains located within Pacific Highway from Harbor Drive to F Street. Construction is anticipated to begin in May 2005 and conclude May 2008. The proposed OMPPA Transmission Project would be located underground within this portion of Pacific Highway.

Broadway Water and Sewer Replacement (Group 711): The City proposes to replace both water and sewer mains located in West Broadway from Pacific Highway to North Harbor Drive. Construction activities are scheduled to begin December 2005 and conclude August 2006. This proposed water and sewer replacement project would cross over Pacific Highway where the proposed OMPPA Transmission Project would be located underground.

Ash Street and A Street Water and Sewer Replacement (Group 747): The City proposes to replace both water and sewer mains located in West Ash Street and A Street. Construction activities are scheduled to begin June 2006 and conclude April 2007. This proposed water and sewer replacement project would cross over Pacific Highway where the proposed OMPPA Transmission Project would be located underground.

Pacific Highway Trunk Sewer Replacement: This proposed project involves replacement of an existing trunk sewer within Pacific Highway from Grape Street to Sassafras Street. Construction is anticipated to begin in August 2005 and conclude August 2006. The proposed OMPPA Transmission Project would be located underground within this portion of Pacific Highway.

Pedestrian bridge at Park and Harbor: The Port of San Diego and the Center City Development Corporation have proposed construction of a pedestrian bridge over Harbor Drive to provide a walkway from the new San Diego Convention Center Public Parking Facility to Petco Park. This project is currently in the design phase.

Bay to Bay Canal: The development of a canal linking San Diego Bay to Mission Bay via the San Diego River is proposed as a critical step toward revitalizing the community of Midway/Pacific Highway Corridor and providing recreational opportunities. The canal would run south between Kurtz Street and Sports Arena Boulevard from the San Diego River and head southwest near Rosecrans towards San Diego Bay. Development of the canal requires further environmental assessment and amendments, including the Local Coastal Program. If approvals cannot be obtained, development of a linear park or waterway is proposed.

North Embarcadero Visionary Plan: The NEVP identifies a number of development projects which are expected to be completed in 2008.

- **Bayfront Esplanade** component proposes a 100 foot wide continuous linear public open space along the San Diego Bay, including a 25-foot-wide promenade along western edge.
- Extension of B and C Streets would occur from Pacific Coast Highway westerly to North Harbor Drive. These extensions would establish view corridors and connect downtown to the waterfront.
- **Broadway Landing** includes the construction of a pier from an oval shaped landscaped park (Broadway Plaza) and a large expansion of the harbor to berth vessels. This project would be bounded by B Street, Broadway, B Street Pier and Pier 11A.
- **Grape Street Pier** would replace three existing piers with a single crescent shaped pier. Two boat docks, a water access pier, a large park, and a recreational facility would be included in this project.
- Four new crescent piers between Laurel and Hawthorn Streets would be constructed.

- **County Administration Center Terrace,** located from Grape Street to the proposed Maritime Museum, is proposed as part of the NEVP. The Terrace would consist of passive green space framed by trees, a bayside overlook, and two gathering venues.
- San Diego Midway Museum is proposed to be located on a floating dock north of G Street Mole and south of Navy Pier 11A. This project would convert a U.S.S. aircraft carrier into museum attraction and is expected to be completed by 2008.
- Lane Field development consists of a 600-800 room hotel with office building, retail, and parking space. The Land Field hotel, located north of Broadway and west of Pacific Highway, is scheduled for completion by 2005. With the inclusion of the 1220 Pacific Highway property currently owned by the Navy, this project would encompass 9.3 acres.
- **Cruise Ship Terminal Expansion** project proposes to create a trapezoidal pier by extending the north side of B Street Pier. The south side of the pier would allow cruise ship berthing while the west side would only accommodate smaller ships. A 60-100 foot apron would be constructed along the B Street Pier for loading and truck queuing. The terminal area is located west of North Harbor Drive and approximately one block north of Broadway. The new pier proposed with the construction would be located west of the North Harbor Drive/ Ash Street intersection.
- **County Administration Center Parking Lots** subsequent project is proposed with the Visionary Plan. This project would be located on the existing north and south lots and is associated with the proposed County Administration Center Terrace. Development on the north lot consists of a 6-story, 300,000 sq. ft. office building and related retail and with a 1,050 car parking structure. South lot development includes construction of a 6-story hotel with ancillary retail and an above/underground parking structure accommodating 840 automobiles.

South Embarcadero Redevelopment: A number of expansion and redevelopment projects have been proposed for the area along Harbor Drive between Park Boulevard and North Harbor Drive.

• Seaport Village Expansion is being proposed by Harbor Venture LCC in cooperation with San Diego Seaport Village, Ltd. The project site is bounded on the north by Harbor Drive, Seaport Village buildings on the south, San Diego Bay on the west, and Kettner Boulevard on the east. Expansion of this site would construct 203,280 sq ft of new retail entertainment, specialty retail shops, restaurants, arcades, courtyards, pedestrian walkways, and 1.8-acres of park. The proposal also includes the extension of the proposed "Central Park" through Seaport Village and relocating Cinderella Carriage Company stables to a portion of the extended park area.

- **Park Expansion** is being proposed for a park site located on the existing Old Police Station and within parts of Seaport Village. The project proposes to create 10-acre public park including the 104,000 sq ft historic Old Police Station South.
- **Hyatt Regency Expansion** proposal includes a 448-foot-heigh, 810 room hotel tower. In addition the project plans include: construction of 80,100 sq ft of exhibit, ballroom, and meeting space; creating an open deck; building a 62-foot-high tower connecting structure; constructing an outdoor plaza; and the modification of existing accessways.
- **Marriot Expansion** is being proposed by Pacific Gateway Ltd. Development of this property would construct a 398-foot-high, 600 room hotel tower with an additional 11,657 sq ft of ballroom space and 5,000 sq ft of registration lobby space. Along the bayfront promenade, the project would develop 45,000 sq ft for future retail space. The project also plans to widen access from adjacent roadways, relocate the existing Marriot cooling towers, improve access between the Marriot east tower and the Convention Center, and widen the Marriott/Hyatt walkway.

D.7.1.4 Agricultural Resources

The U.S. Department of Agriculture, Soils Conservation Service, has identified farmlands as follows:

- *Prime Farmland:* Land that has the best combination of physical and chemical properties for the production of crops.
- *Farmland of Statewide Importance:* Similar to Prime Farmland, but with minor shortcomings (e.g., steeper slopes, inability to hold water).
- *Unique Farmland:* Land of lesser quality soils, but recently used for the production of specific high economic value crops.

The OMPPA Transmission Project would not cross over any lands defined as Prime Farmland, Farmland of Statewide Importance or Unique Farmland. The transmission corridor would also not cross through any property under the Williamson Act.

D.7.1.5 Recreational Land Uses

As shown in *Figure D.7-2 Existing Land Use Maps 2a, 2b, 2c, 3, 4, 5a* and *5b* and described in *Section D.7.1.1*, within 0.25 mile of the project there are 21 park facilities (see *Table D.7-1*).

TABLE D.7-1 RECREATIONAL FACILITIES			
Recreational Facility	Approximate Milepost	City	Description
Sycamore Cany	on Substation to Fa	anita Junction	
	•	, ,	adjacent to this segment
Miguel Substati	ion to South Bay Po	wer Plant Area	
Bonita Long Canyon Park	30.0 (Crossed)	Chula Vista	12.56 acres; equipped with ball fields, a playground, restrooms, and a picnic area
Discovery Park	31.0 (Crossed)	Chula Vista	20 acres; equipped with ball fields, a running trail, a picnic area, and play equipment
South Bay Skate Park	31.3 (Adjacent	Chula Vista	small neighborhood skate park
Sunridge Park	32.5 (Crossed)	Chula Vista	6.6 acres; small neighborhood park
Sunbow Park	33.0 (Crossed)	Chula Vista	3.7 acres; includes a community center, picnic area, sports fields, basketball courts, and restrooms
Greg Rogers Park	33.5 (Crossed)	Chula Vista	43 acres; contains multiple sports fields, barbeque grills, and the Len Moore Skate Park, a 20,000 square-foot skateboarding facility
Palomar Park	34.0 (Crossed)	Chula Vista	2.7 acres; contains open space, picnic area, play equipment, and barbeque grills
Loma Verde Park	35.0 (Crossed)	Chula Vista	6.2 acres; contains the Reinstra Ball Fields, a recreation center, and an outdoor pool
San Diego Gas & Electric Park	35.5 (Crossed)	Chula Vista	20.0 acres; contains lawns and a picnic area
Otay Park	(Adjacent)	Chula Vista	4.2 acres; contains open green space, picnic area, play equipment, soccer field, and barbeque grills
South Bay Pow	er Plant Area to Sw	eetwater River Trai	nsition Area
Marina View Park	38.7 (Crossed)	Chula Vista	4.5 acres; includes play equipment, picnic tables and benches, and an open play area
Chula Vista Bayfront Park	38.75 (Adjacent)	Chula Vista	Provides green lawn for visitor activities and a boat launching ramp
Bay Boulevard Park	40.0 (Adjacent)	Chula Vista	1.5 acres; small neighborhood park containing open green space and picnic area
Sweetwater Marsh National Wildlife Refuge	39.5 to 41.5 (Crosses)	Chula Vista	316-acre refuge; offers interpretive nature hikes and wildlife viewing through the Chula Vista Nature Center
Sweetwater Riv	er Transition Area	to Sicard Street Tra	ansition Area
Pepper Park	(Adjacent)	National City	5 acres; contains a boat launch, picnic benches, and restrooms

SDG&E OMPPA Transmission Project D.7 LAND USE, AGRICULTURAL AND RECREATIONAL RESOURCES

TABLE D.7-1 RECREATIONAL FACILITIES			
Recreational Facility	Approximate Milepost	City	Description
Sicard Street Tr	ansition Area to C	Id Town Substation	
Cesar Chavez Park	45.1 (Adjacent)	San Diego	Soccer fields, ballfields, tennis courts, a children's play area, indoor basketball and volleyball courts, and a meeting room
Chicano Park	45.2 (Adjacent)	San Diego	grass fields with playground areas, a basketball court, an Aztec- style dance or band stage, picnic tables and restrooms
Crosby Street Park	45.3 (Adjacent)	San Diego	Contains recreational pier, picnic and playground areas, and open space
Martin Luther King Junior Promenade	46.5 (adjacent)	San Diego	10 acres; contains a walking path, picnic area, benches, and gardens that are open to the public
Pantoja Park	47.0 (Adjacent)	San Diego	Large grassy area
San Diego River	51.2 (Crosses)	San Diego	wildlife viewing and bicycle lanes

D.7.1.6 Schools

As shown in *Figure D.7-2, Existing Land Use Maps 2a, 2b, 2c, 3, 4 and 5a* and described in *Section D.7.1.1*, there are 16 public and private schools located within 0.25 mile of the Proposed Project alignment (see *Table D.7-2*).

	AND PRIV	BLE D.7-2 YATE SCHOOLS WITHIN F PROJECT AREA	
School Name	Mile- post	Location	Number of Students
Sycamore Canyon Substation to Fanita	Junction		
No schools are located within 0.25 mile.			
Miguel Substation to South Bay Power	Plan Area		
Bonita Country Day School	30.75	625 Otay Lakes Road, Chula Vista	66
Bonita Vista Middle School	30.75	650 Otay Lakes Road, Chula Vista	1,205
Bonita Vista Senior High School	30.75	751 Otay Lakes Road, Chula Vista	2,823
Castle Park Middle School	35.50	160 Quintard Street, Chula Vista	1,509
Castle Park High School	35.00	1395 Hilltop Drive, Chula Vista	2,299
Discovery Elementary Charter School	31.50	1100 Camino Biscay, Chula Vista	821
Harborside Elementary School	37.25	681 Naples Street, Chula Vista	730

	AND PRI	BLE D.7-2 VATE SCHOOLS WITHIN DF PROJECT AREA	
School Name	Mile- post	Location	Number of Students
Loma Verde Elementary School	35.00	1450 Loma Lane, Chula Vista	656
Montgomery (John J.) elementary School	36.25	1601 4 th Avenue, Chula Vista	419
Palomar Elementary School	34.25	300 E. Palomar Street, Chula Vista	440
Palomar High Continuation School	36.50	480 Palomar Street, Chula Vista	439
Rogers (Greg) Elementary School	33.25	510 E. Naples Street, Chula Vista	589
South Bay Power Plant Area to Sicard Str	eet Transitio	n Area	
Kimball Elementary School	42.00	302 W. 18th Street, National City	478
Robert L. Mueller Elementary School	39.25	715 I Street, Chula Vista	920
Sicard Street Transition Area to Old Town Substation			
Perkins Elementary School	45.50	1770 Main Street, San Diego	440
Washington Elementary School	48.00	1789 State Street, San Diego	335

D.7.2 Applicable Regulations, Plans and Standards

As shown in *Figure D.7-1*, the proposed OMPPA Transmission Project would traverse land under the jurisdiction of the U.S. Department of Defense (MCAS Miramar), the California State Lands Commission (San Diego and Sweetwater river bottoms), County of San Diego, and the cities of San Diego, National City, and Chula Vista.

The following section presents a general description of plans, policies, and ordinances applicable to the OMPPA Transmission Project area. *Table D.7-3* identifies the applicable jurisdiction and planning document by project segment. *Section D.3, Biological Resources*, provides applicable habitat conservation plans, policies, and regulations.

APPLICABLE JURISDIC	TABLE D.7-3 FIONS AND PLANNING DOCUMENTS ROJECT SEGMENT
Project Segment	Jurisdiction
Sycamore Substation to Fanita Junction:	MCAS Miramar Integrated Natural Resources Management Plan.
Miguel Substation to South Bay Power Plant	 County of San Diego Zoning Ordinance County General Plan Sweetwater Community Plan

APPLICABLE JURISDIC	TABLE D.7-3 FIONS AND PLANNING DOCUMENTS ROJECT SEGMENT
Project Segment	Jurisdiction
	 City of Chula Vista Chula Vista General Plan Montgomery Specific Plan Amended and Restated Redevelopment Plan-Merged Chula Vista Redevelopment Project Chula Vista Local Coastal Program-Land Use Plan State of California California Coastal Act Port of San Diego Port Master Plan
South Bay Power Plant to Sweetwater River Transition Area	 City of Chula Vista General Plan Bayfront Specific Plan and Coastal Development Application Permit Procedures Manual Chula Vista Local Coastal Program-Land Use Plan Amended and Restated Redevelopment Plan-Merged Chula Vista Redevelopment Project State of California California Coastal Act Port of San Diego Port Master Plan
Sweetwater River Transition Area to Sicard Street Transition Area	 City of National City National City General Plan Local Coastal Program Land Use Plan City of San Diego Progress Guide and General Plan Barrio Logan/Harbor 101 Community Plan State of California California Coastal Act Port of San Diego Port Master Plan
Sicard Street Transition Area to Old Town Substation	 City of San Diego Progress Guide and General Plan Center City Community Plan Midway/Pacific Highway Community Plan Old Town San Diego Community Plan Linda Vista Community Plan and Local Coastal Program Land Use State of California California Coastal Act Port of San Diego Port Master Plan

D.7.2.1 Federal

U.S. Marine Corps Air Station Miramar

Integrated Natural Resources Management Plan: The Integrated Natural Resources Management Plan (INRMP) was developed in 2000 for MCAS Miramar to provide technical guidance for management of natural resources while maintaining and operating facilities and services necessary to serve the mission of MCAS. The INRMP outlines an approach to management and conservation of natural resources, as well as describe existing land uses and biological resources occurring on the 23,116-acre Air station. The Management Area Designation and Land Use Compatibility Section identifies several potentially applicable requirements for actions taken on MCAS.

- Public Works Department site approval is required for all facilities-related activities. These activities include, but are not limited to, development, reconstruction, repairs, utilities, leases, and easements.
- Prior to conducting the following activities, reviews must occur to ensure that the general requirements for all areas are met.
 - -- Aircraft operations at more than 300 feet above ground level (AGL) and take-offs and landings at designated sites (includes use of and transit to and from Confined Area Landing, Mountainous Area Landing, and Heavy Lift sites).
 - -- Aircraft operations below 300 feet AGL in Level IV and V MAs (Management Areas) and in Level I, II, and III MAs between 1 September and 14 February; undeveloped site landings in Level IV and V MAs.

D.7.2.2 State

Coastal Commission

California Coastal Act: The California Coastal Act was enacted in 1976 by the State Legislature to provide long-term protection of the State's 1,100 miles of coastline. The policies of the Coastal Act form the standards by which the Coastal Commission approves coastal development permits and the Local Coastal Programs (LCP) developed by local agencies (State of California 1999). These policies, among others, focus on protection and expansion of public access to the shoreline and recreational opportunities; protection, enhancement and restoration of biological resources; and protection of scenic seascapes and coastal landscapes. Development activities proposed within 1,000 yards of the mean high tide are generally subject to the Coastal Act and would require a coastal development permit. In significant coastal estuarine, habitat or recreational areas, the coastal zone may extend up to five miles or the first major ridgeline (State of California 2004).

The coastal zone relative to the OMPPA Transmission Project alignment is depicted on *Figure D.7-3*. Management of the conservation and development of coastal resources within the project area reside with local jurisdictions upon certification of LCPs by the Coastal Commission. LCPs serve as the planning document in which land uses are described and implementing measures identified. For the City of Chula Vista, the LCP is implemented as part of the Bayfront Specific Plan and described in the Chula Vista LCP Land Use Plan. For National City, a LCP has been adopted and certified by the Coastal Commission in 1988 and amended in 1997. For the City of San Diego, each community plan includes a land use section that has been prepared in accordance with the Coastal Act. For areas under the Port of San Diego jurisdiction, the Port Master Plan (2004) contains a land use plan that is compliant with the Coastal Act.

D.7.2.3 Local

County of San Diego

General Plan: The County of San Diego General Plan contains goals and policies to guide growth patterns and distribution of land use, infrastructure and resources. There are 11 elements of the County General Plan: Regional Land Use, Housing, Circulation, Safety, Seismic Safety, Scenic Highways, Open Space, Recreation, Noise, Conservation and Energy. These elements are in the process of being updated as part of the County General Plan Update. While these elements provide county wide goals and policies, the Community Plans contain more specific or refined policies and recommendations, which are designed to address each community's unique character and resources. The OMPPA Transmission Project is located in the Sweetwater Community Plan and is described below.

Sweetwater Community Plan: The Sweetwater Community planning area is located within the unincorporated portion of San Diego County south of Route 54, east of I-805 (with a small piece west of I-805), north of the City of Chula Vista and west of the Jamul planning area. The area encompasses approximately 8,000 acres (see *Figure D.7-3*). The Sweetwater Community is characterized as a semi-rural equestrian community and land use goals and policies established in its Community Plan aim to retain and enhance the open, rural, equestrian atmosphere. An extensive network of equestrian trails exist within the Sweetwater Community Plan area and recreation-related policies include development of a system of community riding and hiking trails which provide connect existing and proposed regional trails in San Diego County.

Policies and recommendations relative to transmission lines include the following (County of San Diego 1993):

• Require public agencies to adequately landscape all of their facilities to blend with adjacent land uses.

- Discourage overhead utility lines in scenic areas.
- Encourage the undergrounding of existing distribution utility lines, especially in conjunction with street improvement plans.
- Underground all new power distribution and communication lines where feasible.

The OMPPA Transmission Project would traverse an area designated as the Bonita Specific Plan Area (SPA). This SPA includes the following general conditions:

- Land uses which are compatible with the San Diego Gas and Electric substation and other proposed utility uses need to be identified for adjacent land within the SPA.
- Compatible secondary uses may be identified for the transmission line corridors in this SPA.

Zoning Ordinance: Utility corridor regulations are defined under Section 2940 of the County of San Diego's Zoning Ordinance (1978, amended 1999). These regulations are created to protect corridors for existing or future highways, railways, pipelines, other modes of transportation, and facilities for transmission of electricity, gas, water and other materials and forms of energy. Permitted uses under power lines or over buried pipelines include, among others, horticulture and some industrial and civic uses.

City of San Diego

Progress Guide and General Plan: The major role of the City of San Diego's Progress Guide and General Plan (1989) is to designate the desired general distribution, location and extent of land use types. The City's General Plan contains 14 elements and each element identifies goals, guidelines, standards, and recommendations for management and utilization of resources. While these elements provide city wide goals and policies, Community Plans contain more specific or refined policies and recommendations, which are designed to address each community's unique character and resources.

Guidelines and standards contained in the City's General Plan applicable to development of utility corridors include the following:

- Place utility lines underground wherever possible, and sensitively site those that must be placed above ground (Transportation Element, City of San Diego 1985).
- Floodplains, steep slopes, canyons, coastal and waterfront lands should be left undeveloped, or minimally developed consistent with their special qualities and limitations (Conservation Element, City of San Diego).

• Grading should be kept to a minimum. Canyons should not be filled. Existing trees and ground covers should be retained as much as possible. Natural drainages should be preserved (Conservation Element, City of San Diego).

Barrio Logan/Harbor 101 Community Plan: The Barrio Logan/Harbor 101 Community Plan area encompasses approximately 1,000 acres and includes the area west of I-5, north of the City of National City boundary and south of the Center City area (see *Figure D.7-3*). This community plan is entirely within the Coastal Zone and complies with the requirements of the Local Coastal Program. This community is characterized by diverse land uses including U.S. 32^{nd} Street Naval Base, light and heavy industry, and residential. This community plan identifies a number of recommendations to revitalize the neighborhood, enhance community identity, and improve access to public amenities and facilities.

Objectives relative to the development of the OMPPA Transmission Project include the following:

- Establish community access to the unique environmental asset of San Diego Bay and establish visual links with the unique and interesting waterfront industry (Open Space Element, City of San Diego 1978).
- View corridors to San Diego Bay and downtown should be enhanced (Urban Design, Cit of San Diego 1978).

Center City Community Plan: The Center City Community Plan area encompasses 1,538 acres of land in the metropolitan core of the City of San Diego and the westerly portions of this community lie within the coastal zone (see *Figure D.7-3*). This community plan contains 10 elements: Land Use; Housing; Circulation; Urban Design; Open Space; Human, Social and Educational Service, Culture, Arts and Entertainment; Urban Conservation; Special Projects; and Facilities Financing. The Center City Community Plan identifies goals and objectives that promote its diversity, unique neighborhoods, culture/history, waterfront resources, accessibility and development as an employment center. This plan, originally prepared in 1992 and revised in 2002, is currently undergoing an update to be completed in 2005.

Objectives relative to the development of the OMPPA Transmission Project include the following:

• Continue to develop the waterfront as Centre City's primary open space, park and playground, which is both physically and visually accessible to the public (Urban Design, City of San Diego 2002).

Midway/Pacific Highway Corridor Community Plan: The Midway/Pacific Highway Corridor Community encompasses approximately 800 acres north of the Center City area, west of Old Town and east of Point Loma (see *Figure D.7-3*). This community is largely characterized by industrial uses and commercial retail and most of the community plan area is included in the North Bay Redevelopment Project Area. This community plan, approved in 1991 and amended in 1999, also includes the Local Coastal Program Land Use Plan for this community of the City of San Diego.

Applicable guidelines and development criteria relative to utility corridors include the following:

- The underground installation of overhead utility lines should be implemented in a timely and coordinated manner (Industrial Land Use Policy, City of San Diego 1991).
- Underground existing overhead electric powerlines where economically feasible, and within underground utility districts established by the City (Community Facilities and Services Policy, City of San Diego 1991).
- Improve the aesthetics and functional qualities of commercial areas (Commercial Land Use Policy, City of San Diego 1991).
- Reduce visual clutter in the community and control excessive or unnecessary signage (Commercial Land Use Policy, City of San Diego 1991).
- Provide and maintain setback and view corridors from the public ROW (Commercial Land Use Policy, City of San Diego 1991).
- Upgrade the physical environment and visual appearance of the industrial areas (Industrial Land Use Policy, City of San Diego 1991).
- Storage yards, parking areas and outdoor assemblage areas which are visible from the public ROW should be screened (Industrial Land Use Policy, City of San Diego 1991).
- Maintain adequate landscaping or other means of screening at all gas regulator and electric substations (Community Facilities and Services Policy, City of San Diego 1991).

The Local Coastal Program provides the following recommendation with regard to public works projects.

- The undergrounding of overhead utilities should be included in the City's Capital Improvement Program budget (Local Coastal Program, City of San Diego 1996).
- Provide coastal and bayward view corridors through the community (Community Facilities and Services Policy, City of San Diego 1991).

Old Town San Diego Community Plan: The Old Town Community encompasses approximately 230 acres and is bounded by I-8 to the north, I-5 to the west, by Mission Hills neighborhood to the east, and the Uptown neighborhood to the south (see *Figure D.7-3*). The Old Town area holds historical significance; as such the Community Plan (1987) identifies goals

and objectives that would preserve the area's historical importance/character, while maintaining a mix of residential, commercial, and retail land uses. Recommendations relevant to public utilities include the following:

• With the exception of the large transmission lines, all overhead utilities should be undergrounded (Public Facilities and Utilities Element, City of San Diego 1987).

Linda Vista Community Plan and Local Coastal Program Land Use Plan: The Linda Vista community, comprising about 2,400 acres, is generally bounded on the south by Friars Road, on the west by Interstate 5 (I-5), on the north by Tecolote Canyon and Mesa College Drive, and on the east by State Route 163 (see *Figure D.7-3*). Areas east of I-5 and west of the AT&SF Railroad, approximately 13 acres, are subject to the Local Coastal Program. Much of the community plan area is developed and characterized by residential use with other significant land uses including light industrial and commercial in the Morena area, a university, and retail uses in central Linda Vista. This community plan, prepared in 2003, identifies a number of issues and provides goals, policies, and strategies for land uses and public facilities to address those issues.

Applicable policies and proposals relative to utility corridors include the following:

- The installation of any new utility lines in designated open space areas should be avoided if possible. If unavoidable, they should be placed underground, and the disturbed areas should be revegetated with native species (Open Space Specific Proposal, City of San Diego 2003).
- Priority should be given to undergrounding of utilities in highly visible and populated areas (Public Facilities Policy, City of San Diego 2003).
- The highest priorities for undergrounding utilities should be Ulric Street, Comstock Street, Genesee Avenue, Morena Boulevard, and West Morena Boulevard (Public Facilities Specific Proposal, City of San Diego 2003).
- SDG&E should work with the community to provide visual relief from the Gaines Street Substation Public Facilities Policy, City of San Diego 2003.

City of National City

General Plan: The City of National City completed its General Plan Update in 1996 and contains the following elements: Land Use, Circulation, Housing, Open Space, Safety and Noise. The General Plan is a composite of many policies, programs and intended actions to govern the future physical development of the City of National City.

Policies relevant to utility corridors include the following:

- The ongoing program of removing overhead utility wiring along major roadways and relocating them underground will be continued, financed by allocations from SDG&E, and as required by conditions of approval for new development (Community Design Policy, City of National City 1996).
- Relocate overhead utility lines underground and remove utility poles along roadways. As much as possible, attempt to coordinate this work with other street and utility improvement projects (Community Design Implementation, City of National City 1996).
- Coastal resources, including natural wetlands as well as visual resources, will be protected in accordance with the City's Local Coastal Program (Conservation and Open Space Policy, City of National City 1996).

Local Coastal Program Land Use Plan: The Local Coastal Program Land Use Plan for the City of National City (National City LCP) was adopted by the City and certified by the California Coastal Commission in 1988 and subsequently amended in 1997. The coastal zone of National City includes all the area west of I-5, and a small area east of I-5 south of 30th Street. The portion of the coastal zone under the jurisdiction of the City of National City includes the 525 acres located between the U.S. Navy lands to the north and Chula Vista Bayfront to the south. The LCP discusses public access, recreation, marsh preservation, visual resources, industrial development, and environmental hazards and provides policy recommendations consistent with Coastal Act policies and Coastal Commission guidelines.

Policy recommendations applicable to the OMPPA Transmission Project include:

• To ensure that new development throughout the coastal zone is visually appropriate, projects shall be reviewed for conformance to City standards for building aesthetics and materials, height, signing and landscaping.

City of Chula Vista

General Plan: The Chula Vista General Plan (1995) establishes goals and objectives to provide guidance in the growth of the City. The General Plan contains nine elements: Land Use, Circulation, Public Facilities, Housing, Growth Management, Open Space and Conservation, Parks and Recreation, Safety and Noise. At the time of EIR publication, the General Plan is in the process of being updated.

Applicable objectives relative to development of the OMPPA Transmission Project include the following:

- Encourage the undergrounding of utilities within streets rights-of-way and transportation corridors to enhance the visual appearance of the roadway and create a safer driving environment (Circulation Element, City of Chula Vista 1995).
- Ensure that new park lands are easily developed for park purposes and are not substantially encumbered by constraints such as utility easements, steep slopes or other restrictions on park facility development (Parks and Recreation Element, City of Chula Vista 1995).
- Preserve sensitive natural resources from development by using sensitive land development techniques which minimize the need for massive landform modification and incorporate contour grading and other visually sensitive responsive programs that mitigate impacts (Growth Management Program Element, City of Chula Vista 1995).
- Preserve sensitive natural resources from development by using viewshed overlay for significant landforms as natural features within current City boundaries, or such areas as may be annexed from the sphere of influence, including portions of Mother Miguel Mountain, the Sweetwater Valley, Otay River Valley, Otay Lakes and Bayfront (Growth Management Program Element, City of Chula Vista 1995).

The OMPPA Transmission Project would be visible from several roadways designated as scenic roadways by the City of Chula Vista, including Marina Parkway, F Street, East H Street, Telegraph Canyon Road, Orange Avenue, and Otay Lakes Road. Development adjacent to scenic roadways would be subject to design review to ensure that the design of the development proposal would enhance scenic qualities. The design review would consider the following: architectural design of structures, siting of structures, height of structures, landscaping, signs and utilities.

Chula Vista Local Coastal Program – Land Use Plan: The purpose of the Chula Vista LCP is to provide a detailed plan for the orderly growth, development, redevelopment and conservation of the Chula Vista local coastal zone. The land use component of the LCP provides land use and development policies, which guide development in a manner consistent with the Coastal Act. The implementing component is provided in the Bayfront Specific Plan, described below. The boundaries of the Chula Vista coastal zone are shown on *Figures D.7-3, Existing Land Use Maps 2c* and *3*. The City of Chula Vista has permit jurisdiction over 1,013 acres of the coastal zone. The LCP contains policies to address the 13 major issue areas, five of which are relevant to the development of the OMPPA Transmission Project: water and marine resources; diking, dredging, filling and shoreline structures; environmentally sensitive habitat areas; coastal visual resources and special communities; and industrial development and energy facilities.

With respect to water and marine resources, the LCP provides for mitigation of impacts to wildlife areas from development on adjacent upland parcels. The LCP also precludes any significant diking, dredging or filling activities of wetlands. Within environmentally sensitive areas, the LCP provides protection by restricting use within or adjacent to these areas, which include the Sweetwater Marsh Wildlife Refuge. The LCP acknowledges the existing visual blight, which includes abandoned buildings, open storage, overgrowth and un-landscaped transmission corridors. The LCP policies provide for removal of blighting conditions and for increased public views of the bayfront. The LCP also allows for continued use of existing coastal dependent facilities such as the South Bay Power Plant.

Amended and Restated Redevelopment Plan – Merged Chula Vista Redevelopment Project: The Amended and Restated Redevelopment Plan represents the redevelopment plan for a number of redevelopment areas, including the Southwest Project Area (see *Figure D.7-3*). The Southwest Redevelopment Project Area is comprised of the 1,050 acres located in the southwestern portion of the City. It consists of the commercial and industrial properties along I-5, Broadway Avenue, south Third Avenue and Main Street corridor. Goals and permitted uses applicable to the development of the OMPPA Transmission Project include the following:

- Promote public improvement facilities, which are sensitive to the unique environmental qualities of the Project Area.
- With regard to utilities, the Agency, in conformity with the City municipal code, and City policies, shall require that all utilities be placed underground whenever physically possible and economically feasible.

Montgomery Specific Plan: The Montgomery Specific Plan identifies a number of goals and objectives that address visual quality, recreation and public improvements. See *Figure D.7-3* for Montgomery Specific Plan Area. The following overall goals and objectives are applicable to the development of the OMPPA Transmission Project:

• Encouragement of the park and recreation use of SDG&E rights-of-way.

Bayfront Specific Plan: The implementation program of the Bayfront Specific Plan and Chula Vista LCP has been codified as part of the Chula Vista Municipal Code Title 19, Zoning, Chapter 19. See *Figure D.7-3* for Bayfront Specific Plan Area. As part of the implementation program, development criteria, objectives and policies have been defined to guide development of permitted land uses, including infrastructure and land and water resources. Policies and objectives applicable to the development of the OMPPA Transmission Project include the following:

- Preserve existing wetlands in a healthy state to ensure the aesthetic enjoyment of marshes and the wildlife which inhabit them.
- Improve the visual quality of the shoreline by promoting public and private uses which provide proper restoration, landscaping and maintenance of shoreline areas.
- Protect existing sensitive natural resources from significant adverse impacts during construction of utility systems.

Unified Port of San Diego

Port Master Plan: The Port Master Plan (2003, as amended) provides planning policies for the 5, 480 acres of tidelands located bayward of the mean high tide line. All tidelands are within the Coastal Zone; as such, the Port Master Plan has been prepared in accordance with the California Coastal Act. While the Port owns the majority of the tidelands, portions are owned by the military, State of California, County of San Diego, and cities of San Diego and Coronado. The Port Master Plan study area is divided into nine planning areas: Shelter Island, Harbor Island/Lindbergh Field, Center City/Embarcadero, Tenth Avenue Marine Terminal, National City Bayfront, Coronado Bayfront, Chula Vista Bayfront, Silver Strand South, South Bay Salt Lands and Imperial Beach Ocean Front. Each planning area contains a precise plan map, description of land and water uses, a statement regarding major problems, and a list of projects.

Planning goals applicable to the development of a transmission corridor include the following:

- The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.
- Views should be enhanced through view corridors, the preservation of panoramas, accentuation of vistas, and shielding of the incongruous and inconsistent.

D.7.3 Environmental Impacts and Mitigation Measures

D.7.3.1 Definition and Use of Significance Criteria

Based on the CEQA Guidelines (Appendix G, Environmental Checklist Form), standard CEQA practice and previous environmental documents analyzing transmission line projects, the significance criteria presented below are used to determine if the Proposed Project would result in a significant impact.

Policy consistency impacts would be considered significant if the project would:

• 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, zoning ordinance, habitat conservation plan or natural community conservation plan) adopted for the purpose of avoiding or mitigating an environmental effect.

The Proposed Project would result in significant land use impacts if it would:

- Physically divide an established community;
- Create long-term disturbances that would disrupt an established land use;
- Permanently displace an established land use; or
- Adversely affect sensitive receptors such as residences and schools.

Recreational resources would be significantly impacted if the Proposed Project would:

- Increase the use of existing neighborhood and regional parks or recreational facilities such that substantial deterioration of the facility would occur or be accelerated; or
- Disrupt recreational activities, which would have a substantial adverse effect on the recreational value of existing facilities.

The Proposed Project would significantly impact agricultural resources if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use; or
- Conflict with existing zoning for agricultural use or a Williamson Act contract.

D.7.3.2 Applicant Proposed Measures

SDG&E proposes to implement the APMs presented in *Table D.7-4* to reduce general land use and recreational impacts associated with construction.

TABLE D.7-4 APPLICANT PROPOSED MEASURES FOR LAND USE AND RECREATION

APM No.	Description
45	To the extent feasible, project facilities would be installed along the edges or borders of private property, open space parks, and recreation areas. When it is not feasible to locate project facilities along property borders, SDG&E would consult with affected property owners to identify facility locations that create the least potential

TABLE D.7-4

APPLICANT PROPOSED MEASURES FOR LAND USE AND RECREATION

APM No.	Description
	impact to property and are mutually acceptable to property owners. When SDG&E cannot mutually resolve facility locations with property owners, SDG&E would pay just compensation to those property owners based on the facility locations identified by SDG&E.
46	To the extent feasible during final engineering design, coordinate the installation location of the project facilities line with landowners and/or the government agency having jurisdiction and/or the local government having an interest in the location of the facilities. When SDG&E cannot resolve facility locations in coordination with affected property owners that create the least potential impact to property and that are mutually acceptable to property owners, SDG&E would pay just compensation to those property owners based on the facility locations identified by SDG&E.
50	Where necessary to avoid significant protected environmental land use impacts, limit potential visual impacts and reduce the footprint of structures, use steel pole support structures in place of steel lattice tower structures.

D.7.3.3 230 kV Overhead Transmission Line

Development of the proposed 230 kV transmission line would result in both short-term and longterm land use impacts. Short-term impacts which would occur as a result of transmission line construction include direct conflicts with existing land uses and disruption to the community associated with dust, noise/vibration, public health, traffic disruption and visual quality. Project impacts related to air quality, noise, public health and safety, traffic and visual quality are discussed in this EIR (*Sections D.2, D.8, D.9, D.12 and D.13* respectively). Long-term impacts would result from precluding and/or conflicting with existing and/or planned land uses within the transmission line ROW.

The following summarizes the existing and planned land uses that would be affected by the proposed 230 kV overhead transmission line.

Impact L-1: Conflict with an Applicable Land Use Plan, Policy, or Regulation

While local agencies do not have jurisdiction over the OMPPA Transmission Project, a conflict with adopted land use plans, policies, or regulations of these agencies would be considered a significant impact. All levels of government implement land use plans, policies, and regulations to reduce the impacts of development projects on the environment. Therefore, if the OMPPA Transmission Project conflicted with one of these standards, it would negate the respective government's attempt to reduce or avoid an environmental impact. By complying with local land use plans, policies, and regulations, the OMPPA Transmission Project would meet each

jurisdiction's respective goals for reducing or eliminating the impacts of land use decisions. *Table D.7-5* provides an analysis of the OMPPA Transmission Project's consistency with applicable plans and policies.

As demonstrated in the table below, the overhead portion of the OMPPA Transmission Project would be consistent with applicable plans, policies and regulations relevant to the project area. Therefore, less than significant impacts associated with applicable plans and policies would occur (Class III).

TABLI CONSISTENCY ANALYSIS WITH APPL REGULATION FOR THE OVERHE	ICABLE LAND USE PLAN, POLICY OR
Applicable Land Use Plan, Policy, or Regulation	Consistency Determination
MCAS	
	rated Natural Resources Management Plan provides technical ng and operating facilities and services necessary to serve the
Public Works Department site approval is required for all facilities-related activities. These activities include, but are not limited to, development, reconstruction, repairs, utilities, leases, and easements.	SDG&E would coordinate with the Public Works Department prior to construction. The OMPPA Transmission Project would be consistent with this policy.
 Prior to conducting the following activities, reviews must occur to ensure that the general requirements for all areas are met. Aircraft operations at more than 300 feet above ground level (AGL) and take-offs and landings at designated sites (includes use of and transit to and from Confined Area Landing, Mountainous Area Landing, and Heavy Lift sites). Aircraft operations below 300 feet AGL in Level IV and V MAs (Management Areas) and in Level I, II, and III MAs between 1 September and 14 February; undeveloped site landings in Level IV and V MAs. 	As described in <i>Section D.12</i> , helicopter activities will be based from two or three locations to be determined before construction and flight paths will be coordinated with local air traffic control (Federal Aviation Administration) per SDG&E's Environmental Standard for Federal Aviation Administration Notification Requirements for Construction in the Vicinity of Airports. Helicopter use, if any, will be temporary and limited in duration and will not affect air traffic patterns. The OMPPA Transmission Project would coordinate with MCAS on any helicopter activity. The project is consistent with this policy.
County of San Diego	
Zoning Ordinance. Utility corridor regulations are defined under (1978, amended 1999).	er Section 2940 of the County of San Diego's Zoning Ordinance
Section 2940 of the County of San Diego's Zoning Ordinance (1978, amended 1999) protect corridors for existing or future facilities for transmission of electricity, gas, water and other materials and forms of energy.	The proposed overhead 230 kV transmission line would occur entirely within an existing SDG&E ROW. Because the new transmission line would be located within an existing ROW, this utility project would be consistent with the County of San Diego Zoning Ordinance.
General Plan. The County of San Diego General Plan contains goals and policies to guide growth patterns and distribution of land use, infrastructure and resources. While the various General Plan elements provide county wide goals and policies, the Community Plans contain more specific or	See discussion of the Sweetwater Community Plan below for consistency analysis of the OMPPA Transmission Project with potentially applicable County policies.

TABLE D.7-5CONSISTENCY ANALYSIS WITH APPLICABLE LAND USE PLAN, POLICY ORREGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE

REGULATION FOR THE OVERHI	
Applicable Land Use Plan, Policy, or Regulation	Consistency Determination
refined policies and recommendations, which are designed to address each community's unique character and resources.	
	s characterized as a semi-rural equestrian community and land to retain and enhance the open, rural, equestrian atmosphere. lude the following (County of San Diego 1993).
Discourage overhead utility lines in scenic areas. Underground all new power distribution and communication lines where feasible.	The proposed overhead 230 kV transmission line would occur entirely within an existing SDG&E ROW which is an established overhead electric transmission corridor that is designated in the County's General Plan and Sweetwater Community Plan and therefore would not conflict with this policy.
Encourage the undergrounding of existing distribution utility lines, especially in conjunction with street improvement plans.	The OMPPA Transmission Project within the County of San Diego would be located within an existing SDG&E ROW and not within roadways. Therefore, undergrounding utilities in conjunction with street improvement plans is not relevant. The OMPPA Transmission Project would not conflict with this policy.
Bonita Specific Plan Area - Land uses which are compatible with the San Diego Gas and Electric substation and other proposed utility uses need to be identified for adjacent land within the SPA.	The OMPPA Transmission Project would not preclude compatible land uses adjacent to the ROW. Therefore, no conflict with this policy would occur as a result of the OMPPA Transmission Project.
Bonita Specific Plan Area Compatible secondary uses may be identified for the transmission line corridors in this SPA.	The OMPPA Transmission Project would not preclude compatible secondary uses of transmission line corridor. Therefore, no conflict with this policy would occur as a result of the OMPPA Transmission Project.
City of Chula Vista	
General Plan. The Chula Vista General Plan (1995) establishe City. Applicable objectives relative to development of the OMP	es goals and objectives to provide guidance in the growth of the PA Transmission Project include the following.
Encourage the undergrounding of utilities within streets rights-of-way and transportation corridors to enhance the visual appearance of the roadway and create a safer driving environment (Circulation Element, City of Chula Vista 1995).	This policy is intended for local utilities located within streets ROW for the purpose of enhancing visual quality and safety of roadways by removing utility poles and lines. The intent of this policy is not to relocate regional transmission corridors constructed within established ROWs occurring outside of roadways. Because the overhead portion of the OMPPA Transmission Project is not located within streets ROW in the City of Chula Vista, the project would not conflict with this policy.
Ensure that new park lands are easily developed for park purposes and are not substantially encumbered by constraints such as utility easements, steep slopes or other restrictions on park facility development (Parks and Recreation Element, City of Chula Vista 1995).	The OMPPA Transmission Project would be located within an existing SDG&E ROW and would not affect lands proposed for park development. Because the project would not preclude establishment of new parks, the proposed transmission project would not conflict with this policy.
	dentifies a number of goals and objectives that address visual overall goals and objectives are potentially applicable to the

TABLE D.7-5
CONSISTENCY ANALYSIS WITH APPLICABLE LAND USE PLAN, POLICY OR
REGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE

	CAD 250 KV TRANSIVIISSION LINE
Applicable Land Use Plan, Policy, or Regulation	Consistency Determination
Encouragement of the park and recreation use of SDG&E rights-of-way.	The OMPPA Transmission Project would not result in a change of land use of the existing SDG&E ROW nor would it preclude use of the ROW for future park and recreation use. The project would not conflict with this policy.
Amended and Restated Redevelopment Plan-Merged Chula The Amended and Restated Redevelopment Plan represents including the Southwest Project Area. Goals and permitted us Project include the following.	the redevelopment plan for a number of redevelopment areas,
Promote public improvement facilities, which are sensitive to the unique environmental qualities of the Project Area.	The overhead portion of the OMPPA Transmission Project would be entirely located within the existing and established SDG&E electric utility ROW. Therefore, the project would not affect the unique environmental qualities of the Southwest Project Area nor would it preclude other public improvement projects. The OMPPA Transmission Project would not conflict with this policy.
With regard to utilities, the Agency, in conformity with the City municipal code, and City policies, shall require that all utilities be placed underground whenever physically possible and economically feasible.	This policy is intended for local utilities located within easements along roadways for the purpose of enhancing visual quality. The OMPPA Transmission Project would be developed in a regional transmission corridor within an existing SDG&E ROW, which currently contains other transmission lines consistent with the City of Chula Vista General Plan. Because the policy does not directly apply to regional transmission corridors within established utility ROW, the project does not conflict with this policy.
Chula Vista Local Coastal Program-Land Use Plan. The purpose of the Chula Vista LCP is to provide a detailed conservation of the Chula Vista local coastal zone. The land u policies, which guide development in a manner consistent with major issue areas, five of which are relevant to the develop resources; diking, dredging, filling and shoreline structures; en and special communities; and industrial development and energy	use component of the LCP provides land use and development the Coastal Act. The LCP contains policies to address the 13 ment of the OMPPA Transmission Project: water and marine invironmentally sensitive habitat areas; coastal visual resources
With respect to water and marine resources, the LCP provides for mitigation of impacts to wildlife areas from development on adjacent upland parcels.	The overhead portion of the OMPPA Transmission Project within the Chula Vista coastal zone is located near the salt evaporation ponds south of the South Bay Power Plant and west of I-5. The project would require installation of several new steel poles within an existing SDG&E ROW. Any impacts to water and marine resources as a result of the project would be reduced to less than significant with implementation of mitigation and APMs described in Section D.3, Biological Resources Subsection D.3.5, Mitigation Monitoring and Compliance. Because impacts to water related resources would be mitigated to less than significant, the project is considered to be consistent with this policy regarding water and marine resources.
The LCP precludes any significant diking, dredging or filling activities of wetlands.	No significant diking, dredging or filling of wetlands would occur as a result of the OMPPA Transmission Project. Any impacts to wetlands as a result of the project would be

TABLE D.7-5
CONSISTENCY ANALYSIS WITH APPLICABLE LAND USE PLAN, POLICY OR
REGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE

REGULATION FOR THE OVERHEAD 250 KV TRANSMISSION LINE			
Applicable Land Use Plan, Policy, or Regulation	Consistency Determination		
	reduced to less than significant with implementation of mitigation and APMs described in <i>Section D.3, Biological Resources.</i> Because impacts to wetlands would be mitigated to less than significant, the project is considered to be consistent with this policy regarding wetland resources.		
Within environmentally sensitive areas, the LCP provides protection by restricting use within or adjacent to these areas, which include the Sweetwater Marsh Wildlife Refuge.	The OMPPA Transmission Project proposes to directional drill underneath the Sweetwater Marsh National Wildlife Refuge to avoid impacts to this environmentally sensitive area. At a point just south of the Sweetwater River and within the SDG&E ROW, the transmission line transitions aboveground to cross the Sweetwater River. With the exception of a single transition pole just south of the Sweetwater River, the OMPPA Transmission Project avoids permanent impacts to or adjacent to the Wildlife Refuge. The project is consistent with this policy regarding the Wildlife Refuge.		
The LCP acknowledges the existing visual blight, which includes abandoned buildings, open storage, overgrowth and un-landscaped transmission corridors. The LCP policies provide for removal of blighting conditions and for increased public views of the bayfront.	With the exception of two transition areas, one near the South Bay Power Plant and one just south of Sweetwater River, the OMPPA Transmission Project would be located underground within the Chula Vista coastal zone. As a result, the project would not contribute to visual blight conditions. The project is consistent with this policy regarding visual blight.		
The LCP allows for continued use of existing coastal dependent facilities such as the South Bay Power Plant.	The OMPPA Transmission Project would not preclude continued use of coastal dependent facilities such as the South Bay Power Plant. The project would not conflict with this policy.		
Port of San Diego			
	ides planning policies for the 5,480 acres of tidelands located ole to the development of a transmission corridor include the		
The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.	The overhead portion of the OMPPA Transmission Project would cross into areas under the Port's jurisdiction at the South Bay Power Plant Area. The proposed overhead 230 kV transmission line would occur entirely within an existing SDG&E ROW and would not result in a substantial change over existing visual conditions. The project would require installation of several new steel poles. As described in <i>Section D.3</i> , no significant impacts would occur after implementation of mitigation measures and APMs (see <i>Section D.3, Biological Resources</i>). Therefore, the OMPPA Transmission Project would not conflict with this policy.		
Views should be enhanced through view corridors, the preservation of panoramas, accentuation of vistas, and shielding of the incongruous and inconsistent.	The proposed 230 kV transmission line along the San Diego Bay would occur entirely within an existing SDG&E ROW and be placed underground from the South Bay Power Plant to the Sweetwater River and overhead from the Sweetwater River to Sicard Street. The overhead portion would occur		

TABLE D.7-5 CONSISTENCY ANALYSIS WITH APPLICABLE LAND USE PLAN, POLICY OR REGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE

REGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE			
Applicable Land Use Plan, Policy, or Regulation	Consistency Determination		
	within industrial and commercial areas and would be placed on existing structures. Therefore, the Proposed Project would not result in a substantial change over existing conditions and is not considered to be a conflict with this policy.		
Coastal Commission			
California Coastal Act. The California Coastal Act was enacted in 1976 by the State Legislature to provide long-term protection of the State's 1,100 miles of coastline. The Coastal Act policies, among others, focus on protection and expansion of public access to the shoreline and recreational opportunities; protection, enhancement and restoration of biological resources; and protection of scenic seascapes and coastal landscapes.	Management of the conservation and development of coastal resources within the project area reside with local jurisdictions upon certification of LCPs by the Coastal Commission. See discussion of Bayfront Specific Plan, Chula Vista LCP Land Use Plan, National City LCP, and Port Master Plan for a consistency analysis of the OMPPA Transmission Project with local LCPs.		
City of National City			
General Plan. The General Plan is a composite of many polici development of the City of National City. Policies relevant to ut	es, programs and intended actions to govern the future physical tility corridors include the following.		
The ongoing program of removing overhead utility wiring along major roadways and relocating them underground will be continued, financed by allocations from SDG&E, and as required by conditions of approval for new development (Community Design Policy, City of National City 1996).	This policy is intended for new developments where existing local overhead utilities occur along major roadways. The OMPPA Transmission Project is not associated with a new development project and would not be co-located within a major roadway. The project is proposed to be located within an existing SDG&E ROW and would involve adding a 230 kV line to existing structures. Therefore, the OMPPA Transmission Project would not conflict with this policy.		
Relocate overhead utility lines underground and remove utility poles along roadways. As much as possible, attempt to coordinate this work with other street and utility improvement projects (Community Design Implementation, City of National City 1996).	This policy is intended for local utilities located within streets ROW for the purpose of enhancing visual quality and safety of roadways by removing utility poles and lines. The intent of this policy is not to relocate regional transmission corridors constructed within established transmission ROWs occurring outside of roadways and therefore the OMPPA Transmission Project would not conflict with this policy.		
Coastal resources, including natural wetlands as well as visual resources, will be protected in accordance with the City's Local Coastal Program (Conservation and Open Space Policy, City of National City 1996).	The proposed overhead 230 kV transmission line would occur entirely within an existing SDG&E ROW, which in the City of National City is located within an urbanized area. The addition of a new 230 kV line on existing structures would not affect coastal resources due to its location within developed areas and the existing visual setting of the area surrounding the ROW. The OMPPA Transmission Project would not conflict with this policy.		
Local Coastal Program Land Use Plan. The LCP discusses public access, recreation, marsh preservation, visual resources, industrial development, and environmental hazards and provides policy recommendations consistent with Coastal Act policies and Coastal Commission guidelines. Policy recommendations applicable to the OMPPA Transmission Project include the following.			
To ensure that new development throughout the coastal zone is visually appropriate, projects shall be reviewed for	The proposed overhead 230 kV transmission line would occur entirely within an existing SDG&E ROW and be		

TABLE D.7-5 CONSISTENCY ANALYSIS WITH APPLICABLE LAND USE PLAN, POLICY OR REGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE		
Applicable Land Use Plan, Policy, or Regulation	Consistency Determination	
conformance to City standards for building aesthetics and materials, height, signing and landscaping.	installed on existing structures and therefore would not result in a substantial change over existing visual conditions. Therefore, the OMPPA Transmission Project would not change the existing visual quality of the coastal zone. The project would not conflict with this policy.	
City of San Diego		
	/ of San Diego's Progress Guide and General Plan (1989) is to of land use types. Guidelines and standards relevant to the	
Place utility lines underground wherever possible, and sensitively site those that must be placed above ground (Transportation Element, City of San Diego 1985).	The OMPPA Transmission Project includes less than 2 miles of new overhead 230 kV transmission line within the City of San Diego. The overhead transmission line would occur entirely within an existing SDG&E ROW and be installed on existing structures. Because the new transmission line would be located within an existing ROW and would not require new overhead structures, no effect to future transportation projects or safety hazards to roadways would occur due to overhead transmission line. Therefore, the OMPPA Transmission Project is consistent with the guidelines and standards of the Transportation Element of the City of San Diego Progress Guide and General Plan.	
Floodplains, steep slopes, canyons, coastal and waterfront lands should be left undeveloped, or minimally developed consistent with their special qualities and limitations (Conservation Element, City of San Diego).	The OMPPA Transmission Project would be located entirely within an existing SDG&E ROW or underground within City of San Diego streets within a highly urbanized area. Floodplains, steep slopes, canyons, coastal and waterfront lands would not be affected. The OMPPA Transmission Project is consistent with the guidelines and standards of the Conservation Element of the City of San Diego Progress Guide and General Plan.	
Grading should be kept to a minimum. Canyons should not be filled. Existing trees and ground covers should be retained as much as possible. Natural drainages should be preserved (Conservation Element, City of San Diego).	The OMPPA Transmission Project would be located entirely within an existing SDG&E ROW or underground within City of San Diego streets within a highly urbanized area and would not affect existing trees or groundcover. The project would not require filling of any canyons. Also where the project would cross any natural drainage, SDG&E would adhere to APMs 6, 11, 12, 35, 38, 39, 41, 52, 55 and 65 (see Section D.3, Biological Resources), which would avoid and minimize impacts to natural drainages. Therefore, the OMPPA Transmission Project is consistent with the guidelines and standards of the Conservation Element of the City of San Diego Progress Guide and General Plan.	
Barrio Logan/Harbor 101 Community Plan. This community plan identifies a number of recommendations to revitalize the neighborhood, enhance community identity, and improve access to public amenities and facilities. Objectives relative to the development of the OMPPA Transmission Project include the following.		
Establish community access to the unique environmental asset of San Diego Bay and establish visual links with the unique and interesting waterfront industry (Open Space	The overhead portion of the OMPPA Transmission Project would be located entirely within an existing SDG&E ROW and be installed on existing structures, which within the	

TABLE D.7-5 CONSISTENCY ANALYSIS WITH APPLICABLE LAND USE PLAN, POLICY OR REGULATION FOR THE OVERHEAD 230 KV TRANSMISSION LINE

Applicable Land Use Plan, Policy, or Regulation	Consistency Determination
Element, City of San Diego 1978).	Barrio Logan area occurs in a highly urbanized area. The ROW is not located on the waterfront and views of the waterfront from the ROW are currently obstructed by buildings and structures associated with the 32 nd Street Naval Station and the shipyards. Because the addition of a new 230 kV line on existing structures would not result in a substantial change in the existing visual setting and views of the waterfront are currently obstructed, the OMPPA Transmission Project would not affect community access or views of the San Diego Bay and waterfront areas. The project would not conflict with this policy.
View corridors to San Diego Bay and downtown should be enhanced (Urban Design, Cit of San Diego 1978).	The overhead portion of the OMPPA Transmission Project would be located entirely within an existing SDG&E ROW and be installed on existing structures, which within the Barrio Logan area occurs in a highly urbanized area. Because the addition of a new 230 kV line on existing structures would not result in a substantial change in the existing visual setting, view corridors would not be affected. The OMPPA Transmission Project would not conflict with this urban design policy.

Impact L-2: Physically Divide an Established Community

The OMPPA Transmission Project and construction access routes would cross or run adjacent to a range of land use types, including residential, commercial, industrial, public service, transportation, open space, and recreational lands. While a major linear facility such as a transmission line has the potential to physically divide a community, the OMPPA Transmission Project would be located within an existing established transmission corridor that contains existing overhead transmission lines and would therefore not further divide an established community.

The OMPPA Transmission Project would have a less than significant impact (Class III) with regard to physical division of communities because the proposed modifications to the existing transmission corridor would not result in further physical division of the nearby communities as a result of long-term physical or visual barriers.

Impact L-3: Disrupt an Established Land Use

Construction activities would have the potential to disrupt land uses along the transmission corridor for short periods. Construction work associated with stringing the new 230 kV line

would require installation of temporary crossing guard structures at all road crossings and any other locations where the conductors could potentially come in contact with vehicular traffic. Disruptions may also occur during delivery of pole structures and other large pieces of equipment and may temporarily limit access to areas surrounding pole locations. The installation of the proposed 230 kV transmission line would cause temporary disruptions to established land uses as a result of restricted access due to road and lane closures, street parking displacement, limited access around pole locations, and disruption of local transit services. Impacts resulting from temporary disruption of established land uses due to restricted access during construction would be considered significant but mitigable (Class II). To reduce construction related impacts to less than significant, Mitigation Measures L-3a (Construction Notification) and L-3b (Public Liaison and Information Hotline) are provided. In addition, Mitigation Measure T-1a (Prepare Transportation Management Plan) and T-1b (Restrict Lane Closures) described in *Section D.12, Transportation and Traffic*, would further reduce impacts to established land uses resulting from construction related traffic.

Mitigation Measures for Impact L-3, Disrupt Established Land Uses

L-3a Provide Construction Notification and Minimize Construction Distrubance. SDG&E or its construction contractor shall provide advance notice, between two and four weeks prior to construction, by mail to all residents or property owners within 300 feet of the alignment. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. SDG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. Prior to construction, copies of all notices shall be submitted to the CPUC.

SDG&E shall construct during the night in areas where a local jurisdiction requests such timing to reduce construction disruption, if it can be demonstrated that significant noise impacts would not occur. Whether requested by either SDG&E or the local jurisdiction, SDG&E shall provide written evidence of local jurisdiction approval to the CPUC prior to the start of any night work. SDG&E shall also provide analysis of noise impacts and proposed mitigation measures for any residents or other sensitive land uses that would be affected by nighttime construction.

L-3b Provide Public Liaison Person and Information Hotline. SDG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in

notices distributed to the public in accordance with Mitigation Measure L-3a. SDG&E shall also establish a telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures shall be submitted to the CPUC for review and approval prior to construction and bi-monthly reports summarizing public concerns shall be provided to the CPUC during construction.

The overhead portion of the OMPPA Transmission Project would occur entirely within an existing SDG&E ROW. Operation and maintenance activities for the 230 kV line would occur approximately every three to four months and during emergency situations. The number of maintenance visits and type of activities associated with the OMPPA Transmission Project would not be substantially different than current operation and maintenance levels occurring within the ROW. Therefore, established land uses adjacent to the ROW are not anticipated to be disrupted and continued use of adjacent properties would not be precluded or displaced by the proposed OMPPA Transmission Project.

Construction of new permanent access roads would be required as part of the OMPPA Transmission Project. Established land uses adjacent to the ROW where new access roads are proposed would not be affected because gates would be installed to minimize unauthorized access to these roads and to the ROW. Therefore, disruption to established land uses along the Proposed Project ROW due to increased access is considered to be less than significant (Class III) and therefore, no mitigation is required.

Impact L-4: Displace an Established Land Use

Construction of the overhead portion of the OMPPA Transmission Project would involve installation of new transmission structures within an established SDG&E utility ROW. Within the Miguel Substation to South Bay Power Plant Area Segment, 63 new steel poles are required and 10 of these poles would be placed in areas currently occupied by parking or storage areas (see Figure D.7-2, Existing Land Use Maps 2a, 2b and 2c). Installation of the new steel pole structures would temporarily disturb 0.5 acre at each pole location. Established land uses at the proposed pole locations would be temporarily displaced during construction. Impacts resulting from temporary displacement of established land uses would be reduced with adherence to APM 45 and 46. These measures require coordination between SDG&E and affected property owners to identify pole locations that would result in the least impact to the property and would be mutually acceptable the property owner. APMs 45 and 46 require that if a mutually acceptable pole location cannot be identified, SDG&E would provide compensation to the property owners. While APMs 45 and 46 would reduce temporary impacts to established land uses (Impact L-4), these APMs would allow for project variances which in turn could increase the impact or create a new impact. Implementation of Mitigation Measure L-4a would mitigate potential impacts caused by APMs 45 and 46 to less than significant (Class II).

Mitigation Measure for Impact L-4, Displace an Established Land Use

L-4a Project variances shall be strictly limited to minor project changes (such as, movement of proposed transmission structure within an existing parking lot) that will not trigger other permit requirements and does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of APMs 45 and 46. All project variances and supporting documentation regarding coordination with affected property owners shall be submitted to the CPUC for review and approval at least 60 days prior to construction.

Once construction of the new steel pole structures is complete, each new pole would occupy an area approximately 500 square feet in size. With construction of the 10 new steel poles, approximately 5,000 square feet (0.11 acre) of parking or storage areas would be permanently displaced. Compared to the large amount of parking and storage along the transmission alignment, a displacement of 0.11 acre of parking and storage is considered to be a less than significant impact requiring no mitigation (Class III). In addition, APM 45 and 46 would provide coordination between SDG&E and property owners to identify mutually acceptable pole locations. APMs 45 and 46 require that if such a location cannot be determined, then SDG&E would compensate property owners. While APMs 45 and 46 would reduce permanent impacts to established land uses within the ROW, these APMs would allow for project variances which in turn could increase the impact or create a new impact. Implementation of Mitigation Measure L-4a would mitigate potential impacts caused by APMs 45 and 46 to less than significant (Class II).

Impact L-5: Substantially Deteriorate a Recreational Facility or Disrupt Recreational Activities

The OMPPA Transmission Project would result in or accelerate the substantial physical deterioration of recreational facilities if it increased their use beyond existing capacity. Generally, this increased use is a result of an increase in population local to the recreational resources. As discussed in *Section D.11, Population and Housing*, and *Section F.1, Growth-Inducing Effects*, the OMPPA Transmission Project is not expected to induce either short-term or long-term population growth, and is unlikely to draw additional residents or recreationists to the area. Therefore, the OMPPA Transmission Project would not increase local need for recreational resources, and the OMPPA Transmission Project would not lead to the physical deterioration of recreational facilities due to increased use.

The OMPPA Transmission Project could also deteriorate recreational facilities if it reduced the value of their use. This could occur, for example, through reduced visual value, increased noise and traffic, increased dust and emissions. These impacts are addressed in their respective

sections elsewhere in Section D. The OMPPA Transmission Project could also reduce the value of recreational resources through a physical intrusion into the resource. The OMPPA Transmission Project would pass over or near 21 park facilities as identified in Table D.7-1. Table D.7-6 describes the types of short-term and long-term impacts that would occur to various recreational facilities in the study area. As shown in Table D.7-6, during construction, disruption of recreational activities would occur through the physical restriction of activities such as recreational areas, trails, or facility entrances being blocked by construction activities or equipment. Although construction work related to installation of new towers and cable-pulling activities would occur within the existing SDG&E ROW, it may be necessary to temporarily, partially, or fully close parks, roads and trails during construction. Construction related activities may temporarily close or block access to these recreational facilities. APM 45 and 46 would require coordination between SDG&E and local agency staff with jurisdiction over these parks to identify appropriate signage and areas that would require restricted access. Even with implementation of APM 45 and 46, impacts to recreational activities would be considered significant (Class II) but mitigable to less than significant with implementation of Mitigation Measures L-5a (Avoid Peak Usage) and L-5b (Notify Users).

	TABLE D.7-6 RECREATIONAL FACILITIES – IMPACTS		
Recreational Facility	Approximate Milepost	City	Description
Sycamore Can	yon Substation to	Fanita Junction	
No recreational	facilities parks are c	rosses by or directly a	djacent to this segment
Miguel Substat	ion to South Bay F	Power Plant Area	
Bonita Long Canyon Park	30.0 (Crossed)	Chula Vista	One new steel pole would be located within the park, which would result in both temporary construction-related impacts, as well as permanent impacts. Other temporary impacts include use of the existing access roads during construction and maintenance.
Discovery Park	31.0 (Crossed)	Chula Vista	No permanent structures would be located within the park. Overhead 230 kV transmission lines would span Discovery Park. No direct impacts would occur.
South Bay Skate Park	31.3 (Adjacent	Chula Vista	No permanent impacts to this park are anticipated as the skate park is located over 450 feet southeast of the edge of the SDG&E ROW.
Sunridge Park	32.5 (Crossed)	Chula Vista	No permanent structures would be located within the park. Overhead 230 kV transmission lines would span Sunridge Park. No direct impacts would occur.
Sunbow Park	33.0 (Crossed)	Chula Vista	No permanent structures would be located within the park. Overhead 230 kV transmission lines would span Sunbow Park. No direct impacts would occur.
Greg Rogers Park	33.5 (Crossed)	Chula Vista	One new steel pole would be located within the park, which would result in both permanent and temporary construction related impacts.

	TABLE D.7-6 RECREATIONAL FACILITIES – IMPACTS			
Recreational Facility	Approximate Milepost	City	Description	
Palomar Park	34.0 (Crossed)	Chula Vista	No permanent structures would be located within the park. Overhead 230 kV transmission lines would be located adjacent to Palomar Park. No direct impacts would occur.	
Loma Verde Park	35.0 (Crossed)	Chula Vista	Within this park, a pull site, two new steel pole structures, and two new permanent access roads would be constructed as part of the Proposed Project. The pull site would result in temporary impacts. The two new steel pole structures would result in both permanent and temporary impacts and the two new access roads would result in permanent impacts.	
San Diego Gas & Electric Park	35.5 (Crossed)	Chula Vista	Two new steel pole structures would be constructed within this park, which would result in both temporary construction related impacts, as well as permanent impacts.	
Otay Park	(Adjacent)	Chula Vista	No permanent impacts to this park are anticipated as Otay Park is located over 1,000 feet south of the edge of the SDG&E ROW.	
South Bay Pow	ver Plant Area to Sv	weetwater River Trai	nsition Area	
Marina View Park	38.7 (Crossed)	Chula Vista	The Proposed Project would be undergrounded beneath Marina View Park. Temporary construction related impacts would occur.	
Chula Vista Bayfront Park	38.75 (Adjacent)	Chula Vista	No permanent impacts to this park are anticipated as Chula Vista Bayfront Park is located over 2,000 feet west of the edge of the SDG&E ROW.	
Bay Boulevard Park	40.0 (Adjacent)	Chula Vista	The Proposed Project would be located underground along the Chula Vista Bayfront. Therefore, this park may be affected by temporary construction related impacts.	
Sweetwater Marsh National Wildlife Refuge	39.5 to 41.5 (Crosses)	Chula Vista	The Proposed Project would be located underground and would be constructed using horizontal directional drilling techniques. Temporary and permanent impacts would result from the construction of cable transition poles located at the north and south ends of the Refuge. Temporary impacts associated with staging areas for construction would also occur.	
Sweetwater Riv	Sweetwater River Transition Area to Sicard Street Transition Area			
Pepper Park	(Adjacent)	National City	No permanent structures would be located within the park. Overhead 230 kV transmission lines would be located adjacent to Pepper Park. No direct impacts would occur.	
Sicard Street T	Sicard Street Transition Area to Old Town Substation			
Cesar Chavez Park	45.1 (Adjacent)	San Diego	No permanent structures would be located within the park. The underground 230 kV cable would be located within Harbor Drive, approximately 1,000 feet to the east of the park. No direct impacts would occur.	
Chicano Park	45.2 (Adjacent)	San Diego	No permanent structures would be located within the park. The underground 230 kV cable would be located within Harbor Drive, approximately 1,200 feet to the west of the park. No direct impacts would occur.	

	TABLE D.7-6 RECREATIONAL FACILITIES – IMPACTS		
Recreational Facility	Approximate Milepost	City	Description
Crosby Street Park	45.3 (Adjacent)	San Diego	No permanent structures would be located within the park. The underground 230 kV cable would be located within Harbor Drive, approximately 1,000 feet to the east of the park. No direct impacts would occur.
Martin Luther King Junior Promenade	46.5 (adjacent)	San Diego	No permanent structures would be located within the park; however the underground 230 kV cable would be located within Harbor Drive adjacent to the park. Temporary construction related impacts to the park may occur.
Pantoja Park	47.0 (Adjacent)	San Diego	No permanent structures would be located within the park. The underground 230 kV cable would be located within Pacific Highway, approximately 1,000 feet to the west of the park. No direct impacts would occur.
San Diego River	51.2 (Crosses)	San Diego	The Proposed Project would be located beneath the San Diego River and would be constructed using horizontal directional drilling techniques. Bore sites and staging areas would be located outside of the San Diego River; therefore, no permanent impacts would occur. Construction activities may result in temporary impacts to recreational activities along the San Diego River.

As shown in *Table D.7-6*, approximately six new steel transmission poles would be placed within four recreational parks located between the Miguel Substation and South Bay Power Plant. Each new pole would occupy an area approximately 500 square feet in size. With construction of the six new steel poles, approximately 3,000 square feet (0.7 acre) of recreational area would be permanently displaced. Compared to the existing recreational resources within the SDG&E ROW between the Miguel Substation and South Bay Power Plant, a displacement of 0.7 acre of recreational area is considered to be a less than significant impact requiring no mitigation (Class III). In addition, APMs 45 and 46 would provide coordination between SDG&E and the City of Chula Vista to identify mutually acceptable pole locations.

Mitigation Measures for Impact L-5, Disrupt Recreational Activities

- L-5a Avoid peak recreational usage. SDG&E shall not schedule construction during times of peak usage (i.e., weekends and holidays) at the following recreational areas and provide documentation substantiating coordination efforts with various affected recreational parks to the CPUC for review and approval prior to construction:
 - Bonita Long Canyon Park
 - Discovery Park

- Sunridge Park
- Sunbow Park
- Greg Rogers Park
- Palomar Park
- Rienstra Ballfields
- Loma Verde Park
- SDG&E Park
- Pepper Park
- Marina View Park
- Chula Vista Bayfront Park
- Bay Boulevard Park
- Sweetwater Marsh National Wildlife Refuge
- Pepper Park
- Cesar Chavez Park
- Chicano Park
- Crosby Street Park
- Martin Luther King Junior Promenade
- Pantoja Park
- San Diego River
- Any other recreational resource the CPUC determines to be impacted by construction. If the CPUC determines another recreational resource is being impacted during peak recreational hours, SDG&E shall reschedule the appropriate construction activities such that they occur outside times of peak usage (i.e., weekends and holidays).
- **L-5b** Notify users of recreational resources. During construction, SDG&E shall provide appropriate notice to all affected recreationists by doing the following:
 - Onsite notification of recreational access closures at least thirty days in advance, through the posting of signs and/or other notices at all public entrances and/or other areas of high visibility (i.e., visitors' center, clubhouse, etc.)
 - Public notification through community newspapers and bulletins.

Documentation of such notification shall be submitted to the CPUC.

With implementation of APM 45 and 46 and Mitigation Measures L-5a (Avoid Peak Usage) and L-5b (Notify Users), impacts associated with disruption of recreational activities during construction would be mitigated to less than significant (Class II).

Disruption of recreational activities during construction may also occur through disruption of the user's enjoyment of the recreational experience. The noise, vibration, dust, and odor from construction activities may disrupt users' enjoyment of natural serenity at the above listed parks. Similarly, views of construction equipment or the addition or change of other industrial structures, such as transmission towers, can also disrupt the recreationists' enjoyment and recreational activities. Impacts to recreational activities due to disruption of the user's enjoyment of a recreational facility are considered significant (Class II) but mitigable to less than significant with implementation of Mitigation Measures L-5a (Avoid Peak Usage) and L-5b (Notify Users).

During operation of the OMPPA Transmission Project, disruption of recreational activities may occur if operational and maintenance activities preclude or restrict access to a recreational facility. As previously mentioned, the operation and maintenance of the OMPPA Transmission Project would occur within the existing SDG&E ROW and would not require long-term closure of roadways or driveways leading into a park or recreational facility. Therefore, impacts associated with disruption of recreational activities due to restricted access to a recreational facility would be less than significant (Class III) and therefore, no mitigation is required. The Proposed Project would place new steel poles within park facilities that are located within SDG&E's ROW. Due to their small footprint (approximately 30 feet in diameter clearing around each pole or 500 square feet) and spacing (approximately 1,000 feet apart), placement of the new steel transmission poles as proposed would not substantially disrupt or displace recreational facilities or activities. Additionally, overhead transmission facilities are generally compatible with park and open space areas and therefore would have a less than significant impact requiring no mitigation (Class III) to recreational facilities and activities.

Impact L-6: Convert Farmland to Non-Agricultural Use

The OMPPA Transmission Project does not cross or run adjacent to any lands designated by the Department of Agriculture as Farmland. Therefore, impacts associated with conversion of Farmland to non-agricultural use are unlikely and would be considered less than significant (Class III).

Impact L-7: Conflict with an Existing Agricultural Use or a Williamson Act Contract

The OMPPA Transmission Project does not cross or run adjacent to any properties under a Williamson Act contract (SDG&E, 2002). Therefore, the OMPPA Transmission Project would not conflict with an existing agricultural use or affect lands under a Williamson Act contract. Impacts are considered less than significant (Class III) and therefore, no mitigation is required.

Impact L-8: Conflict with Planned Future Development

Planned future development is defined in long-range planning documents, such as general plans and community plans, as well as other planning documents addressing future land use. The OMPPA Transmission Project would conflict with planned future land development if it precludes planned land uses designated in applicable general plans and community plans, as well as other long-term planning documents. A conflict with planned future development may also occur if the OMPPA Transmission Project is considered an incompatible use with adjacent future development. The following discussion addresses the potential effect the proposed overhead 230 kV transmission line and associated structures would have on planned future development by applicable project segments.

Sycamore Canyon Substation to Fanita Junction

The planned land uses for the Sycamore Canyon Substation to Fanita Junction Segment are considered substantially the same as the existing land uses. The OMPPA Transmission Project would be located entirely within an existing established SDG&E utility ROW. Because the planned land uses are substantially the same as the existing uses, the project would not preclude planned land use of adjacent areas nor would it be considered an incompatible adjacent use and therefore, less than significant impacts requiring no mitigation (Class III) to future planned development within this project segment would occur.

Miguel Substation to South Bay Power Plant Area

With the exception of several areas along the transmission corridor from the Miguel Substation to South Bay Power Plant Area, the planned land uses are substantially the same as the existing land uses. In these areas, the OMPPA Transmission Project is not anticipated to result in conflicts with adjacent planned land uses.

In areas where adjacent existing land uses differ from planned land uses, the OMPPA Transmission Project is not expected to preclude planned land use or be considered incompatible. At mile-post 29.3 north of Proctor Valley Road, existing undeveloped land is designated as single-family residential associated with San Miguel Ranch. The OMPPA Transmission Project would occur within the existing established SDG&E utility ROW and does not have additional permanent land requirements outside of the ROW in this area. The project would not remove land designated as single-family residential and therefore, would not preclude future use of adjacent land as residential. The project would also not be considered incompatible with future residential use, as this type of use is currently predominant in this area.

At mile-post 31.8 north of East H Street and at mile-post 35.9 southeast of 3rd Avenue and Orange Avenue, existing undeveloped land is designated as park/open space/natural area. The OMPPA Transmission Project would occur entirely within the existing established SDG&E utility ROW and would not require land outside of the ROW. As a result, future development of park/open space/natural area in these two areas would not be affected by the project and this type of use is generally compatible adjacent to a transmission corridor.

At mile-post 36.6 southeast of Broadway and Orange Avenue, existing undeveloped land is designated as a shopping center. In this location, OMPPA Transmission Project would occur within the existing established SDG&E utility ROW and does not have additional permanent land requirements outside of the ROW. The project would not remove land designated as shopping center and therefore, would not preclude future use of this type of land use. The project would also not be considered incompatible with future use of adjacent property as a shopping center, as this type of urban use is typical along the existing ROW.

Other long-term planning documents addressing future planned land uses include the Chula Vista General Plan, Montgomery Specific Plan, Amended and Restated Redevelopment Plan – Merged Chula Vista Redevelopment Project, and Southwest Redevelopment Project Area – Five Year Implementation Plan for 2000-2004. The following discussion addresses the potential effect the proposed overhead 230 kV transmission line and associated structures would have on planned future development as identified in these long-term planning documents.

Chula Vista General Plan: The Land Use section of the General Plan identifies greenbelts, open space and trail systems within the City. The OMPPA Transmission Project would cross over or would parallel the following designated open space areas: SDG&E Open Space Corridor, Medical Center Drive/Brandywine Avenue Greenway, Corral Canyon/Rutgers Corridor, and Rice Canyon.

Construction of the overhead 230 kV transmission line would involve installation of new tubular steel poles. One steel pole is proposed to be located in Rice Canyon and two steel poles are proposed to be located within the SDG&E Open Space Corridor. The conversion of approximately 500 square feet (or 30 feet in diameter) at each pole location from open space to utility would have a less than significant impact (Class III) on the planned use of the area as an open space corridor or greenbelt. Therefore, the project would not preclude future use of Rice Canyon or the SDG&E open space corridor as a greenbelt or open space. The overhead 230 kV transmission line would be located entirely within an existing established SDG&E utility ROW, which is generally considered compatible adjacent to open space corridors.

Montgomery Specific Plan: Several planning and design proposals for open space and parks have been identified for the portion of the SDG&E ROW that crosses the Montgomery Specific Plan. These proposals include the following:

- SDG&E ROW crosses the central spine of Montgomery, in an east-west direction. This crossing presents an opportunity to establish a greenbelt in an area that is substantially built out. Therefore, where feasible, it is proposed that the SDG&E ROW be reserved and improved for public parks or open space.
- The SDG&E ROW could accommodate a broad spectrum of recreational uses, including bike and pedestrian paths, plant nurseries and arboreta, community gardens, and related off-street parking.

The OMPPA Transmission Project would not preclude use of the SDG&E ROW as a public park, open space or recreational facility. As previously mentioned, new steel poles would be installed in the SDG&E ROW. Removal of 500 square feet per pole from future use as park or open space would not be considered significant when compared to the overall size remaining within the ROW for future park or open space use. Future development of the ROW as park/open space/recreational would not be affected by the project and these types of uses are generally compatible adjacent to a transmission corridor.

Southwest Redevelopment Project Area – Five Year Implementation Plan for 2000-2004: The Southwest Redevelopment Project Area includes the 1,050 acres located in the southwestern portion of the City. It consists of the commercial and industrial properties along I-5, Broadway Avenue, south Third Avenue and Main Street corridor. The Implementation Plan identifies a number of goals and objectives, which focuses on the removal of blighting conditions, improving business and economic` activity, providing improvements to community facilities, and improving vehicular and pedestrian circulation systems. In order to achieve these goals and associated objectives, the Redevelopment Agency has identified eight redevelopment projects and programs that could begin the process of blight elimination. These projects range from providing funding or financial incentives to improving the appearance of buildings to streetscape improvements along Main Street to providing planning assistance in the Otay Regional Park area. The OMPPA Transmission Project would not preclude the Southwest Redevelopment Agency from implementing any of the redevelopment projects defined in the Five Year Implementation Plan.

The overhead portion of the OMPPA Transmission Project would span a number of projects proposed by Caltrans and the City of Chula Vista. Caltrans is proposing to improve the I-805 and Palomar Street interchange, widen I-5 from 24th Street/Mile of Cars Way to Harbor Drive, and construct SR-125. The City of Chula Vista is proposing to construct the East Side Library

and conduct improvements at Sunbow Park and Greg Rogers Park. With the exception of one steel pole to be located at Greg Rogers Park, no permanent feature of the OMPPA Transmission Project would interfere with the design or construction of these projects. The one steel pole would occupy a small area within Greg Rogers Park (less than 65 square feet) and would not affect any other facilities improvements proposed at the park. Therefore, the OMPPA Transmission Projects would have a less than significant (Class III) impact with these proposed projects and therefore, no mitigation is required.

Sweetwater River Transition Area to Sicard Street Transition

The planned land uses for the Sweetwater River Transition Area to Sicard Street Transition Station are considered substantially the same as the existing land uses. The OMPPA Transmission Project would be located entirely within an existing established SDG&E utility ROW. Because the planned land uses are substantially the same as the existing uses, the project would not preclude planned land use of adjacent areas nor would it be considered an incompatible adjacent use. Therefore, a less than significant impact requiring no mitigation (Class III) to future planned development within this project segment would occur.

Areas where existing land use differs from future land use plans include the existing undeveloped area associated with Pepper Park (mile-post 41). At mile-post 41, the existing undeveloped areas associated with Pepper Park is designated as commercial recreation. The OMPPA Transmission Project would occur within the existing SDG&E ROW and does not have additional permanent land requirements outside of the ROW in this area. Future development of commercial recreation of the undeveloped area associated with Pepper Park would not be affected by the project and this type of use is generally compatible adjacent to a transmission corridor. Less than significant impacts to planned land uses would occur in this project segment (Class III) and therefore, no mitigation is required.

D.7.3.4 230 kV Underground Cable

The underground portion of the OMPPA Transmission Project would have a less than significant impact (Class III) to physical division of an established community (Impact L-2) because once construction is completed, the underground cable would not be visible. Due to its location underground within SDG&E's ROW and within city roadways, the 230 kV underground cable would not displace established land uses (Impact L-4), impact recreational facilities (Impact L-5), or cause impacts to agriculture (L-6 and L-7).

Impact L-1: Conflict with an Applicable Land Use Plan, Policy, or Regulation

Table D.7-7 provides a consistency analysis of the 230 kV underground cable with applicable plans and policies. As demonstrated in the table below, the underground portion of the OMPPA Transmission Project would be consistent with applicable plans and policies relevant to the project area. As a result, less than significant impacts (Class III) associated with conflicts to applicable plans and policies would occur and therefore, no mitigation is required.

TABLE D.7-7 CONSISTENCY ANALYSIS OF APPLICABLE LAND USE PLANS, POLICIES AND REGULATIONS FOR THE 230 KV UNDERGROUND CABLE

Applicable Land Use Plan, Policy or Regulation	Consistency Determination		
City of Chula Vista			
General Plan. The Chula Vista General Plan (1995) establishes goals and objectives to provide guidance in the growth of the City. Applicable objectives relative to development of the OMPPA Transmission Project include the following.			
Encourage the undergrounding of utilities within streets rights- of-way and transportation corridors to enhance the visual appearance of the roadway and create a safer driving environment (Circulation Element, City of Chula Vista 1995).	The OMPPA Transmission Project would be undergrounded from the South Bay Power Plant Area to the Sweetwater River. The project is consistent with this policy.		
Ensure that new park lands are easily developed for park purposes and are not substantially encumbered by constraints such as utility easements, steep slopes or other restrictions on park facility development (Parks and Recreation Element, City of Chula Vista 1995).	Due to its location within the existing and established SDG&E utility ROW, the OMPPA Transmission Project would not encumber new park lands. The project is consistent with this policy.		
Preserve sensitive natural resources from development by using viewshed overlay for significant landforms as natural features within current City boundaries, or such areas as may be annexed from the sphere of influence, including portions of Mother Miguel Mountain, the Sweetwater Valley, Otay River Valley, Otay Lakes and Bayfront (Growth Management Program Element, City of Chula Vista 1995).	Due to its location within the established SDG&E utility ROW and proposed undergrounding along the Bayfront, the OMPPA Transmission Project would not visually detract from significant landforms or other sensitive natural resources and therefore is consistent with this policy.		
Bayfront Specific Plan. As part of the implementation program of the Bayfront Specific Plan and Chula Vista LCP, development criteria, objectives and policies have been defined to guide development of permitted land uses, including infrastructure and land and water resources. Policies and objectives applicable to the development of the OMPPA Transmission Project include the following.			
Preserve existing wetlands in a healthy state to ensure the aesthetic enjoyment of marshes and the wildlife which inhabit them.	Trenching and directional drilling would be required to install the underground cable, which would be primarily located within the SDG&E ROW. With the exception of the transition cable poles, potential impacts to wetlands would be temporary and mitigated to less than significant, as described in Section D.3, Biological Resources. Any permanent impacts to wetlands resulting from the transition cable poles would also be mitigated to less than significant, as discussed in Section D.3. Once construction is complete, the underground cable facilities would not be visible and no impacts to the aesthetics of existing marsh areas would occur. Because potential impacts to wetlands would be mitigated to less than significant		

TABLE D.7-7 CONSISTENCY ANALYSIS OF APPLICABLE LAND USE PLANS, POLICIES AND REGULATIONS FOR THE 230 KV UNDERGROUND CABLE

REGULATIONS FOR THE 250 KV UNDERGROUND CABLE			
Applicable Land Use Plan, Policy or Regulation	Consistency Determination		
	and the visual quality of the marsh areas would not be affected, the project is considered to be consistent with this policy.		
Improve the visual quality of the shoreline by promoting public and private uses which provide proper restoration, landscaping and maintenance of shoreline areas.	Due to its location underground, the OMPPA Transmission Project would not detract from the visual quality of the shoreline areas. The underground portion of the OMPPA Transmission Project is consistent with this policy.		
Protect existing sensitive natural resources from significant adverse impacts during construction of utility systems.	The underground cable would be primarily located within the existing SDG&E ROW. Any impacts to natural resources would be temporary and mitigated to less than significant with measures described in Section D.3 and APMs identified to minimize and avoid impacts to biological resources. Once construction is complete, the underground cable facilities would not be visible and no impacts to the aesthetics of existing marsh areas would occur. The project would be consistent with this policy.		
Amended and Restated Redevelopment Plan-Merged Chula Vista Redevelopment Project. The Amended and Restated Redevelopment Plan represents the redevelopment plan for a number of redevelopment areas, including the Southwest Project Area. Goals and permitted uses applicable to the development of the OMPPA Transmission Project include the following:			
Promote public improvement facilities, which are sensitive to the unique environmental qualities of the Project Area.	Due to its location underground, the OMPPA Transmission Project would not visually detract from the unique environmental qualities of the Southwest and Bayfront Redevelopment Area. The underground portion of the OMPPA Transmission Project is consistent with this policy.		
With regard to utilities, the Agency, in conformity with the City municipal code, and City policies, shall require that all utilities be placed underground whenever physically possible and economically feasible.	The OMPPA Transmission Project would be undergrounded from the South Bay Power Plant Area to the Sweetwater River. The project is consistent with this policy.		
Chula Vista Local Coastal Program-Land Use Plan. The purpose of the Chula Vista LCP is to provide a detailed plan for the orderly growth, development, redevelopment and conservation of the Chula Vista local coastal zone. The land use component of the LCP provides land use and development policies, which guide development in a manner consistent with the Coastal Act. The LCP contains policies to address the 13 major issue areas, five of which are relevant to the development of the OMPPA Transmission Project: water and marine resources; diking, dredging, filling and shoreline structures; environmentally sensitive habitat areas; coastal visual resources and special communities; and industrial development and energy facilities.			
With respect to water and marine resources, the LCP provides for mitigation of impacts to wildlife areas from development on adjacent upland parcels.	The underground cable would be primarily located within the existing SDG&E ROW. Any impacts to water and marine resources would be temporary and mitigated to less than significant with measures described in Section D.3 and APMs identified to minimize and avoid impacts to biological resources. The project would be consistent with this policy.		
The LCP precludes any significant diking, dredging or filling activities of wetlands.	Trenching and directional drilling would be required to install the underground cable, which would be primarily located within the SDG&E ROW. With the exception of the transition cable poles, potential impacts to wetlands would be temporary		

CONSISTENCY ANALYSIS OF APPLICA	E D.7-7 ABLE LAND USE PLANS, POLICIES AND AV UNDERGROUND CABLE
Applicable Land Use Plan, Policy or Regulation	Consistency Determination
	and mitigated to less than significant, as described in Section D.3, Biological Resources. No significant diking, dredging or filling of wetlands would be required for construction of the underground cable. Because potential impacts to wetlands would be mitigated to less than significant, the project is considered to be consistent with this policy regarding wetland resources.
Within environmentally sensitive areas, the LCP provides protection by restricting use within or adjacent to these areas, which include the Sweetwater Marsh Wildlife Refuge.	The OMPPA Transmission Project proposes to directional drill underneath the Sweetwater Marsh National Wildlife Refuge to avoid impacts. At a point just south of the Sweetwater River and within the SDG&E ROW, the transmission line transitions aboveground to cross the river. The OMPPA Transmission Project avoids direct impacts to the Wildlife Refuge and minimizes indirect impacts by directionally drilling underneath the Refuge and therefore is consistent with this policy regarding the Wildlife Refuge.
The LCP acknowledges the existing visual blight, which includes abandoned buildings, open storage, overgrowth and un-landscaped transmission corridors. The LCP policies provide for removal of blighting conditions and for increased public views of the bayfront.	With the exception of two transition areas, one near the South Bay Power Plant and one just south of Sweetwater River, which allow for the undergrounding of the Proposed Project in the vicinity of the South Bay Power Plant to Sweetwater River, the OMPPA Transmission Project would be located underground within the Chula Vista coastal zone. As a result, the project would not contribute to visual blight conditions. The project is consistent with this policy regarding visual blight.
The LCP allows for continued use of existing coastal dependent facilities such as the South Bay generating plant.	The OMPPA Transmission Project would not preclude continues use of coastal dependent facilities such as the South Bay Power Plant. The project would not conflict with this policy.
City of San Diego	
	y of San Diego's Progress Guide and General Plan (1989) is to of land use types. Guidelines and standards contained in the include the following.
Place utility lines underground wherever possible, and sensitively site those that must be placed above ground (Transportation Element, City of San Diego 1985).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways. The project is consistent with this policy.
Floodplains, steep slopes, canyons, coastal and waterfront lands should be left undeveloped, or minimally developed consistent with their special qualities and limitations (Conservation Element, City of San Diego).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways and would not significantly affect floodplains, steep slopes, coastal and waterfront lands. Disturbance would be limited to areas characterized as developed or disturbed. The project would not conflict with this policy.
Grading should be kept to a minimum. Canyons should not be filled. Existing trees and ground covers should be retained as much as possible. Natural drainages should be preserved (Conservation Element, City of San Diego).	The underground portion of the OMPPA Transmission Project would be located entirely within existing roadways. Within the City of San Diego, the underground portion would be located within a highly urbanized area and would not significantly

CONSISTENCY ANALYSIS OF APPLICA	E D.7-7 ABLE LAND USE PLANS, POLICIES AND KV UNDERGROUND CABLE
Applicable Land Use Plan, Policy or Regulation	Consistency Determination
	affect existing trees or groundcover. The project would not require filling of any canyons. Also where the project crosses any natural drainage, SDG&E would adhere to APMs 6, 11, 12, 35, 38, 39, 41, 52, 55 and 65 (see Section D.3, Biological Resources), which would avoid and minimize impacts to natural drainages. Therefore, the OMPPA Transmission Project is consistent with the guidelines and standards of the Conservation Element of the City of San Diego Progress Guide and General Plan.
	Plan identifies goals and objectives that promote its diversity, accessibility and development as an employment center. ion Project include the following.
Continue to develop the waterfront as Centre City's primary open space, park and playground, which is both physically and visually accessible to the public (Urban Design, City of San Diego 2002).	The OMPPA Transmission Project would not preclude development of the waterfront. Once construction of the underground cable is complete, the project would not visually detract from the waterfront or result in any physical barriers to the waterfront. The project is consistent with this policy.
Midway/Pacific Highway Corridor Community Plan. Applicat include the following:	ble guidelines and development criteria relative to utility corridors
The underground installation of overhead utility lines should be implemented in a timely and coordinated manner (Industrial Land Use Policy, City of San Diego 1991).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways. The project is consistent with this policy.
Underground existing overhead electric powerlines where economically feasible, and within underground utility districts established by the City (Community Facilities and Services Policy, City of San Diego 1991).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways. The project is consistent with this policy.
Improve the aesthetics and functional qualities of commercial areas (Commercial Land Use Policy, City of San Diego 1991).	Because the OMPPA Transmission Project would be underground within the Midway/Pacific Highway Corridor Community, the project would not conflict with this policy.
Reduce visual clutter in the community and control excessive or unnecessary signage (Commercial Land Use Policy, City of San Diego 1991).	The 230 kV transmission line would be located underground in the City of San Diego and therefore, the project would not contribute to visual clutter. The OMPPA Transmission Project is consistent with this policy.
Provide and maintain setback and view corridors from the public ROW (Commercial Land Use Policy, City of San Diego 1991).	The 230 kV transmission line would be located underground in the City of San Diego and therefore, the project would not block any view corridors. The OMPPA Transmission Project is consistent with this policy.
Storage yards, parking areas and outdoor assemblage areas which are visible from the public ROW should be screened (Industrial Land Use Policy, City of San Diego 1991).	Staging areas associated with the 230 kV underground cable would be temporary. In accordance with APM 45 and 46, SDG&E would coordinate with the City of San Diego and conform to this policy. As a result, there would be no conflict with this policy.

TABLE D.7-7 CONSISTENCY ANALYSIS OF APPLICABLE LAND USE PLANS, POLICIES AND REGULATIONS FOR THE 230 KV UNDERGROUND CABLE						
Applicable Land Use Plan, Policy or Regulation	Consistency Determination					
Maintain adequate landscaping or other means of screening at all gas regulator and electric substations (Community Facilities and Services Policy, City of San Diego 1991).	Modifications to the Old Town Substation would occur entirely within its development footprint and no substantial changes to the visual quality of the area are anticipated. The project would not conflict with this policy.					
The undergrounding of overhead utilities should be included in the City's Capital Improvement Program budget (Local Coastal Program, City of San Diego 1996).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways. The project is consistent with this policy.					
Provide coastal and bayward view corridors through the community (Community Facilities and Services Policy, City of San Diego 1991).	The 230 kV transmission line would be located underground in the City of San Diego and therefore, the project would not block any view corridors. The OMPPA Transmission Project is consistent with this policy.					
	ea holds historical significance; as such the Community Plan 's historical importance/character, while maintaining a mix of relevant to public utilities include the following.					
With the exception of the large transmission lines, all overhead utilities should be undergrounded (Public Facilities and Utilities Element, City of San Diego 1987).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways. The project is consistent with this policy.					
	Ind Use Plan. Much of the community plan area is developed ses including light industrial and commercial in the Morena area, e policies and proposals relative to utility corridors include the					
The installation of any new utility lines in designated open space areas should be avoided if possible. If unavoidable, they should be placed underground, and the disturbed areas should be revegetated with native species (Open Space Specific Proposal, City of San Diego 2003).	The 230 kV transmission line would be located underground in the City of San Diego and therefore, the project would not detract from the scenic values of open space areas. Potential impacts associated with underground the 230 kV transmission cable would be mitigated to less than significant with APMs and mitigation measures identified in D.3, Biological Resources. The OMPPA Transmission Project is consistent with this policy.					
Priority should be given to undergrounding of utilities in highly visible and populated areas (Public Facilities Policy, City of San Diego 2003).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways. The project is consistent with this policy.					
The highest priorities for undergrounding utilities should be Ulric Street, Comstock Street, Genesee Avenue, Morena Boulevard, and West Morena Boulevard (Public Facilities Specific Proposal, City of San Diego 2003).	The OMPPA Transmission Project would be located underground within the City of San Diego roadways and would not further contribute to the number of existing overhead utility lines. The project is consistent with this policy.					
SDG&E should work with the community to provide visual relief from the Gaines Street Substation (Public Facilities Policy, City of San Diego 2003).	The OMPPA Transmission Project would not preclude any efforts to provide visual relief from the Gaines Street Substation (Old Town Substation). In addition, proposed modification work at the substation would not adversely affect the existing visual setting surrounding this substation. The project would not conflict with this policy.					

TABLE D.7-7 CONSISTENCY ANALYSIS OF APPLICABLE LAND USE PLANS, POLICIES AND REGULATIONS FOR THE 230 KV UNDERGROUND CABLE

Applicable Land Use Plan, Policy or Regulation	Consistency Determination
Port of San Diego	
Master Plan. The Port Master Plan (2003, as amended) provi	ides planning policies for the 5, 480 acres of tidelands located ble to the development of a transmission corridor include the
The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.	The overhead portion of the OMPPA Transmission Project would cross into areas under the Port's jurisdiction at the South Bay Power Plant Area. The proposed underground cable would occur primarily within an existing SDG&E ROW and would not result in visual impacts. Trenching and directional drilling would be required to install the underground cable, which would be primarily located within the SDG&E ROW. With the exception of the transition cable poles, potential impacts to biological resources would be temporary and mitigated to less than significant, as described in <i>Section</i> <i>D.3, Biological Resources.</i> Therefore, the OMPPA Transmission Project would not conflict with this policy.
Views should be enhanced through view corridors, the preservation of panoramas, accentuation of vistas, and shielding of the incongruous and inconsistent.	The OMPPA Transmission Project would be undergrounded from the South Bay Power Plant Area to the Sweetwater River. Panoramic views and scenic vistas of lands under Port jurisdiction would not be affected by the underground cable. The project is consistent with this policy.
Coastal Commission	
California Coastal Act. The California Coastal Act was enacted in 1976 by the State Legislature to provide long-term protection of the State's 1,100 miles of coastline. The Coastal Act policies, among others, focus on protection and expansion of public access to the shoreline and recreational opportunities; protection, enhancement and restoration of biological resources; and protection of scenic seascapes and coastal landscapes.	Management of the conservation and development of coastal resources within the project area reside with local jurisdictions upon certification of LCPs by the Coastal Commission. See discussion of Bayfront Specific Plan, Chula Vista LCP Land Use Plan, and Port Master Plan for a consistency analysis of the OMPPA Transmission Project with local LCPs.

Impact L-3: Disrupt an Established Land Use

Impact L-3, described above for construction of overhead project segments, would be somewhat more severe in the underground segments due to the requirement for construction of the trench and splice vaults, which would require operating concrete saws, pavement-breaking machines, jackhammers, backhoes, and other powered construction equipment that would generate noise that could disturb nearby workers. Other noise-generating equipment would include trucks to haul equipment, materials, and personnel; mobile cranes to install prefabricated splice vaults and lay concrete duct banks; a cable-puller truck to pull transmission cables through conduits; air tampers to compact soil; concrete trucks to pour backfill slurry; power generators, air

compressors, and more. Trenching and backfilling would generate dust that could settle on parked cars, window ledges, and other exposed horizontal surfaces. This would represent a temporary conflict with established land uses. Disruption at any given location would last from two to four weeks. Although the noise, dust, and odors generated during construction would constitute a minor nuisance to neighboring businesses and residents, the construction at each location would be of short duration, and construction noise, dust, and diesel odor are commonly accepted by-products of the growing urban development in the City of San Diego. Impacts related to construction noise, dust, and diesel odor would therefore be adverse, but short-term and less than significant requiring no mitigation (Class III).

The underground portion of the proposed transmission line would be located primarily within existing city streets lined by a multitude of businesses and residences. During excavation of the trench for the underground cable, access to side streets, entrances, and driveways would be temporarily disrupted and possibly blocked. This could potentially deprive business owners of customer patronage and could prevent residents from enjoying full use of their properties. Restricted access could occur along Harbor Drive and Pacific Highway. In particular, near milepost 46, the proposed undergrounding/boring would take place in the vicinity of the Port of San Diego 10th Avenue Marine Terminal, a busy entry port for cargo as well as near the San Diego Convention Center. The San Diego Convention Center Corporation has raised concern over access as the San Diego Convention Center can only be accessed via Harbor Drive. In addition, near mile-post 51, the underground transmission corridor would cross the San Diego River. To set up the directional drilling, a 0.18-acre staging area within the Caltrans parking lot would be temporarily required and loss of parking spaces would occur.

While in most cases and at most times, alternative access would be readily available via minor detours (such as needing to drive an extra block and make a U-turn on a four-lane roadway divided by a median), in a limited number of instances access could be more effectively blocked during construction. This would represent a conflict with an established land use. However, even under a worst-case situation, reasonable pedestrian access would be available at all times to all businesses and residences. In such a situation, for example, a business patron could be obliged to park up to a few hundred feet away from a destination. Reasonable vehicular and full pedestrian access to private homes located along the alignment would be available at all times. There may be some isolated locations along the underground alignment where construction could block the driveway to a private off-street parking lot serving a business. In these instances, such disruption could potentially deprive a business of patronage, but such disruption would be short-term in nature.

The potential temporary disruption of established land uses adjacent to the underground alignment would be a significant but mitigable impact (Class II). To reduce the impact to less than significant, Mitigation Measures L-3c (Provide Continuous Access to Properties) and L-3d

(Coordinate with Businesses) are provided. Mitigation measures described in Section D.12, Transportation and Traffic, including: T-1a (Prepare Transportation Management Plan), T-1b (Restrict Lane Closures), T-7a (Loss of Parking), and T-9 (Restricted Circulation Access), would also reduce impacts related to temporary lane closures and loss of parking during construction.

Mitigation Measures for Impact L-3, Disrupt an Established Land Use

- L-3c Provide Continuous Access to Properties. SDG&E or its construction contractor shall provide at all times the ability to quickly lay a temporary steel plate trench bridge upon request to ensure driveway access to businesses and residences, and shall provide continuous access to properties when not actively constructing the underground cable alignment. In the event that trench stability could be compromised by the laying of a temporary steel plate bridge during an early phase of trench construction, the construction contractor may defer a request for access to the soonest possible time until the stability of the trench has been assured, provided SDG&E has provided 48-hour advance notification of the potential for disrupted access to any business or residence that may experience such delayed access. The notification shall include information on restoring access and the estimated amount of time that access may be blocked. In addition, SDG&E shall develop construction plans that will minimize driveways blocked during the workday.
- **L-3d** Coordinate with Businesses. Where private parking lots serving businesses would be effectively blocked during construction, SDG&E shall either make prior arrangements with the business owner(s) to provide alternative parking within reasonable walking distance (*i.e.*, no more than 1,000 feet), or shall coordinate the construction schedule so as to prevent disrupting the functions of the business(es).

Impact L-8: Conflict with Planned Future Development

The following discussion addresses the potential effect the proposed 230 kV underground cable and associated structures would have on planned future development by applicable project segments.

South Bay Power Plant Area to Sweetwater River Transition Area

Planned land uses along the Chula Vista bayfront include a mixture of hotels, residential, commercial, visitor, recreational, resort, administrative/professional and industrial uses. Upon completion of construction, the transmission line would be underground primarily within the existing SDG&E ROW. Two cable transition poles would also be constructed and these would be located within the ROW. Because the transmission line would be underground and would not visually or physically interfere with planned land uses, less than significant impacts requiring no

mitigation (Class III) to planned land uses would occur. The two cable transition poles would also not adversely affect planned land uses because they would be located within the ROW and therefore, would not remove lands designated for other future use.

The following discussion addresses the potential effect the proposed 230 kV underground cable and associated structures would have on planned future development as identified in these long-term planning documents.

Chula Vista Local Coastal Plan – Land Use Plan. The LCP identifies conceptual locations for a variety of land uses within the Chula Vista coastal zone. For the Midbayfront area, a mixture of uses that combine visitor support services for commercial/recreational uses, as well as public parks and high density residential are identified. Industrial related land uses would be discouraged from the Midbayfront area; however industrial uses would continue to occur where it currently exists, generally south of G Street. A number of park and recreation, as well as open space/wildlife refuge type of uses are proposed throughout the bayfront area. These areas include the Sweetwater Marsh National Wildlife Refuge, Chula Vista Nature Center, wetlands adjacent to the Refuge, and Chula Vista Marina.

Due to its location underground within the existing SDG&E ROW, the OMPPA Transmission Project would not preclude future land uses as identified in the Chula Vista LCP. The aboveground structures associated with the 230 kV underground cable include two transition cable poles to be located near the South Bay Power Plant and the Sweetwater River. These poles would occur within the SDG&E ROW and would not interfere with planned land uses. Impacts associated with planned land uses identified in the Chula Vista LCP are considered less than significant (Class III) and therefore, no mitigation is required.

Bayfront Specific Plan-Coastal Development Application Permit Procedures Manual. This specific plan has been prepared consistent with the California Coastal Act and serves as the implementation component of the LCP for the Chula Vista bayfront area. The procedures described in the Bayfront Specific Plan are intended to expedite the processing of public and private plans and proposals for the redevelopment of the bayfront area. These procedures include methods for permit application, as well as for permit exemptions and appeals.

The OMPPA Transmission Project would be subject to the permit process described in the Bayfront Specific Plan and would comply with the necessary permit requirements. The project would be consistent with the Bayfront Specific Plan.

Bayfront Redevelopment Project Area – Five Year Implementation Plan for 2000-2004. The redevelopment project areas currently encompass property west of I-5 to San Diego Bay and from SR-54 south to L Street. It includes the area known as the Midbayfront and former

Goodrich properties. Major programs and projects proposed over the next five years are briefly described below.

Due to its location underground within the existing SDG&E ROW, the OMPPA Transmission Project would not preclude future land uses as identified in the Bayfront Redevelopment Project Five Year Implementation Plan. The aboveground structures associated with the 230 kV underground cable include two transition cable poles to be located near the South Bay Power Plant and the Sweetwater River. These poles would occur within the SDG&E ROW and would not interfere with planned land uses. Impacts associated with planned land uses identified in the Bayfront Redevelopment Project Five Year Implementation Plan are considered less than significant (Class III) and therefore, no mitigation is required.

Chula Vista Bayfront Master Plan. The Chula Vista Bayfront Master Plan (CVBMP) is a joint planning document by the City of Chula Vista and Port of San Diego and is currently in progress. At this time, a land use concept known as Land Use Option C is being moved forward for additional design work and for environmental analysis. The OMPPA Transmission Project would not preclude future use of the Chula Vista bayfront, as conceptually described in Land Use Option C, due to its location underground primarily within the existing SDG&E ROW. The proposed project would also not affect future use of the South Bay Power Plant site. SDG&E has been coordinating with the City of Chula Vista to ensure no impacts to planned land uses along the Chula Vista bayfront would occur. To that end, an MOU (October 2004) has been prepared by the City of Chula Vista and SDG&E that commits SDG&E to helping with implementation of the Chula Vista Bayfront Master Plan. Therefore, less than significant impact to planned land uses as identified in the Chula Vista Bayfront Master Plan would occur (Class III).

Sicard Street Transition Area to Old Town Substation

With the exception of several areas along the transmission corridor from the Sicard Street Transition Area to Old Town Substation, the planned land uses are substantially the same as the existing land uses. In these areas, the OMPPA Transmission Project is not anticipated to result in conflicts with adjacent planned land uses.

In areas where adjacent existing land uses differ from planned land uses, the OMPPA Transmission Project is not expected to preclude planned land use or be considered incompatible. North of the Coronado Bridge and Harbor Drive intersection, existing undeveloped land is designated as a shopping center; north of the 10th Avenue Marine Terminal, undeveloped and transportation-related land uses are planned to be converted to office and commercial recreation; north of Seaport Village (mile-post 47), an existing undeveloped parcel is designated as a future shopping center; and along Pacific Highway where undeveloped and parking lots currently exist,

future land use plans identify additional office, multi-family residential and parks. Because the transmission line would be underground and located within city streets and would not visually or physically interfere with planned land uses, less than significant impacts (Class III) to planned land uses would occur and therefore, no mitigation is required.

Planned land uses within the portion of the City of San Diego from the Sicard Street Transition Area to the Old Town Substation are also discussed in the Barrio Logan Revitalization Action Plan area and the North Embarcadero Visionary Plan area. The following discussion addresses the potential effect the proposed 230 kV underground cable and associated structures would have on planned future development as identified in these long-term planning documents.

Barrio Logan Revitalization Action Plan. This plan was prepared in 1996 as part of an effort to develop a revitalization strategy for the Barrio Logan neighborhood. The plan identifies community issues relative to housing, community identity and development, environment and land use, crime and safety, health, education and public facilities. The plan also provides a description of solutions to address issues, as well as a work plan and funding mechanisms.

The OMPPA Transmission Project would not preclude revitalization efforts in the Barrio Logan neighborhood. Once construction is complete, the underground portion of the OMPPA Transmission Project would not interfere with any streetscape or beautification projects that may be proposed as part of the revitalization efforts. Less than significant impacts to future land uses in the Barrio Logan neighborhood would occur (Class III) and therefore, no mitigation is required.

North Embarcadero Visionary Plan. The NEVP identifies a number of circulation and public access proposals. For Pacific Highway, the NEVP proposes establishing Pacific Highway as an elegant tree-lined boulevard accommodating through traffic and pedestrian circulation.

The underground portion of the OMPPA Transmission Project would be located in Harbor Drive, Pacific Highway and several residential roads in the Linda Vista neighborhood. A number of future water and wastewater projects, as well as a pedestrian bridge and canal project are proposed by the City of San Diego. In addition, the NEVP has identified ten distinct future projects and the South Embarcadero Redevelopment Project calls for four major expansion projects. These future land use projects, as described in *Section D.7.1.3*, would occur within or adjacent to roadways proposed for the underground 230 kV transmission cable.

With the exception of planned roadway improvements to Pacific Highway, the OMPPA Transmission Project is not anticipated to conflict with these proposed projects. During construction in accordance with APM 45 and 46, SDG&E would coordinate with the City of San Diego to discuss construction schedules and project plans in order to minimize construction

conflicts. Therefore, less than significant impacts requiring no mitigation (Class III) resulting from conflicts with proposed projects would occur. As further discussed in *Section D.12*, *Transportation and Traffic*, while it is anticipated that the Proposed Project would not result in landscaping constraints planned for in the NEVP for Pacific Highway, specifically the planting of shade trees along the Pacific Highway median, Mitigation Measures T-8a and T-8b (see Section D.12) have been provided to ensure that this potential conflict would be mitigated to less than significant (Class II).

D.7.3.5 Transition Station

Impact L-1 discussed under Section D.7.3.3, 230 kV Overhead Transmission Line, would apply to the construction and maintenance of the transition station at Sicard Street. As a result, construction and operation of the transition station would have a less than significant impact (Class III) to applicable plans, policies and regulations.

The Sicard Street Transition Area is located within a highly urbanized area of the City of San Diego and the surrounding land uses are primarily light and heavy industrial uses. The transition station would occupy 0.1 acre within a parking lot. Due to its size, the transition station would not result in physical division of nearby communities by introduction of a physical or visual barrier (Impact L-2). The Transition Station would have a less than significant impact (Class III) with regard to physical division of communities and therefore no mitigation is required.

The majority of the work associated with construction of the proposed transition station would occur within an existing parking lot and not within the public ROW. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area and a temporary work area would be required to construct the transition station, which would temporarily disrupt the existing parking lot. Impacts resulting from temporary disruption of established land uses (Impact L-3) during construction would be considered significant but mitigable (Class II). Implementation of Mitigation Measures L-3a (construction notification), L-3b (public liaison and information hot line) and T-7a (see *Section D.12.3.3*) would mitigate Impact L-3 to less than significant (Class II).

Construction of the Transition Station would result in the temporary displacement of approximately 30 parking spaces and the permanent loss of approximately eight parking places. The permanent loss of eight parking places would represent less than one percent of the existing parking lot capacity. Impacts from displacement of established land use (Impact L-4) would be reduced with adherence to APMs 45 and 46 which require coordination with the property owner to identify the precise location to minimize impacts. While APMs 45 and 46 would reduce displacement impacts to the established parking lot, these APMs would allow for project variances which in turn could increase the impact or create a new impact. Implementation of

Mitigation Measure L-4a would mitigate potential impacts caused by APMs 45 and 46 and associated L-4 impacts to less than significant (Class II).

Due to the transition station's location in a highly urbanized area surrounded by light and heavy industrial uses, no other land use impacts would occur due to construction or operation of the proposed transition station.

D.7.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

New structures in the Sycamore Canyon, Miguel and Old Town Substations would be developed within the existing property lines and within areas previously disturbed for substation access. The work associated with substation and switch station upgrades would occur on the station sites and not within the public ROW. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area; however, the slight temporary increase in traffic would not result in disruption of established land uses near these substations (Impact L-3). Less than significant impacts (Class III) to established land uses adjacent to the substations would occur as a result of modifications and therefore, no mitigation is required. No other land use impacts would occur due to construction or operation of proposed modifications to the existing Sycamore Canyon, Miguel or Old Town Substations.

D.7.4 **Project Alternatives**

D.7.4.1 SDG&E Design Option Alternatives (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Environmental Setting

Section D.7.1 describes the existing, planned and proposed land use along the Project alignment. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing, planned and proposed land use conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. The increased underground portion

required for this alternative would take place in City of San Diego roadways, primarily within commercial and industrial areas. Similar to impacts identified for construction of the Proposed Project, project-related excavation for the increased trenching required under the Pacific Highway Bridge Attachment Alternative would temporarily increase disruption to established land use (Impact L-3), but would not conflict with applicable land use plans, policy or regulations (Impact L-1); physically divide an established community (Impact L-2) or displace an established land use (Impact L-4). The potential temporary disruption of established land uses adjacent to the underground alignment would be a significant but mitigable impact (Class II). To reduce the impact to less than significant, Mitigation Measures L-3c (Provide Continuous Access to Properties) and L-3d (Coordinate with Businesses) are provided. Mitigation measures described in Section D.12, Transportation and Traffic: T-1a (Prepare Transportation Management Plan), T-1b (Restrict Lane Closures), T-7a (Loss of Parking), and T-9 (Restricted Circulation Access), would also mitigate impacts related to temporary lane closures and loss of parking during construction to less than significant (Class II).

Harbor Bridge Attachment Design Alternative: The Harbor Bridge Attachment Alternative was identified by SDG&E as a means to avoid and/or minimize potential conflicts with Port of San Diego terminal facilities and activities during the construction phases of the OMPPA Transmission Project. The OMPPA Transmission Project would cross San Diego Port property in the vicinity of Harbor Bridge that has several potentially significant land use constraints. The Port property includes the 10th Avenue Marine Terminal, a busy entry port for cargo. In addition, a set of railroad tracks crosses over Harbor Drive at mile-post 45.9 from the Marine Terminal to the east side of Harbor Drive. Under the OMPPA Transmission Project, potential conflicts may occur during construction as the transmission line would require boring under the railroad tracks and could disrupt rail service. The construction activities may also disrupt activities at the Port as a result of increased traffic and partial roadway closures. The Harbor Bridge Attachment Alternative avoids or minimizes these impacts by avoiding lane closures and crossing underneath the railroad tracks. This alternative would reduce the amount of disruption to rail services and Port activities at the Marine Terminal and eliminates the need for boring at this location and therefore would have no land use related impacts.

Sicard Street Transition Cable Pole Design Alternative: With the exception of impacts due to loss of parking, the land use impacts associated with the Sicard Street Transition Cable Pole would not be different than those associated with the proposed Transition Station and as discussed in *Section D.7.3.5* would be less than significant requiring no mitigation (Class III) for Impact L-1 (Conflict With Applicable Land Use Plan Or Policy) and L-2 (Physically Direct And Established Community) and mitigable to less than significant (Class II) for Impact L-3 (Disrupt an Established Land Use).

The Sicard Street Transition Cable Pole Design Alternative would result in the loss of approximately three permanent parking places which would represent less than one percent of the existing parking lot capacity. Impacts from displacement of three parking places (Impact L-4) would be reduced with adherence to APMs 45 and 46 which require coordination with the property owner to identify the precise location of the transition cable pole to minimize parking impacts. Implementation of Mitigation Measure L-4a would mitigate potential impacts caused by APMs 45 and 46 and associated displacement impacts to less than significant (Class II).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River overhead option primarily consists of minor modifications to existing structures within SDG&E's existing utility ROW, this alternative would not physically divide an established community (Impact L-2); disrupt an established land use (Impact L-3); displace an existing land use (Impact L-4); disrupt recreational activities; or impact agriculture (Impact L-6 and L-7). However, this alternative is inconsistent with the recent MOU between SDG&E and the City of Chula Vista to underground existing transmission facilities along the Chula Vista Bayfront and would conflict with applicable plans and policies relevant to the Chula Vista Bayfront as described in *Table D.7-7*. Specifically, the Chula Vista Bayfront Specific Plan and LCP Land Use Plan recommend the removal of blighting conditions and improved visual quality along the Chula Vista Bayfront. This impact is considered significant (Class I) and cannot be mitigated as proposed. This impact can only be mitigated to less than significant (Class III) by undergrounding as proposed in the OMPPA Transmission Project.

Comparison to the Proposed Project

Land use impacts resulting from the construction and operation of SDG&E's Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, and the Harbor Bridge Attachment Design Alternatives would either remain the same or be reduced from the Proposed Project.

The South Bay Power Plant Area to Sweetwater River Overhead Design Alternative would conflict with applicable land use plans and policies relevant to the City of Chula Vista Bayfront resulting in a Class I impact to Impact L-1 as opposed to the Proposed OMPPA Transmission Project, which proposes to underground the 230 kV transmission line along the Chula Vista Bayfront which would result in no impacts to Impact L-1.

D.7.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.7.1 describes the existing planned and proposed land use along the Project alignment. Because the Transmission System Alternative would occur within the same alignment (Miguel Substation to South Bay Power Plant) as the Proposed Project, the land use conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

The Transmission System Alternative is located within the County of San Diego and City of Chula Vista. Applicable regulations, plans and standards include the following: County of San Diego Zoning Ordinance, County of San Diego General Plan, Sweetwater Community Plan, City of Chula Vista General Plan, Montgomery Specific Plan, Amended and Restated Redevelopment Plan-Merged Chula Vista Redevelopment Project, Chula Vista Local Coastal Program-Land Use Plan California Coastal Act and Port of San Diego Master Plan. The analysis of the Transmission System Alternative's consistency with these plans would not be substantially different from the analysis discussed in Section D.7.3 for the Proposed Project. The removal of the existing lattice structures from Proctor Valley Substation to the South Bay Power Plant would be consistent with the City of Chula Vista's goal of enhancing view corridors and preserving scenic qualities of the Chula Vista Bayfront as described in applicable planning documents. The construction of a new 1.5 mile 138 kV overhead transmission line between Proctor Valley and Miguel Substations would occur entirely within the existing SDG&E ROW; therefore, this alternative would not preclude adjacent land uses or conflict with policies relevant to this area. Less than significant impacts associated with applicable plans and policies (Impact L-1) would occur (Class III) and therefore, no mitigation is required.

The Transmission System Alternative would be located within an existing established transmission corridor that contains existing overhead transmission lines and would not further divide an established community. This alternative would have a less than significant impact requiring no mitigation (Class III) with regard to physical division of communities (Impact L-2) because the proposed modifications to the existing transmission corridor would not result in further physical division of the nearby communities as a result of long-term physical or visual barriers.

Long-term disruption of existing land uses would be reduced under this alternative due to the removal of existing lattice structures between the South Bay Power Plant and Proctor Valley Substation. However, impacts associated with disruption of existing land uses during

construction would be slightly greater under the Transmission System Alternative due to the additional construction activities required to remove existing lattice structures between the Proctor Valley Substation and South Bay Power Plant and to construct a new 1.5 mile 138 kV line between Proctor Valley and Miguel Substations. These additional components proposed as part of this alternative would add to the adverse effects of restricted access due to road and lane closures, street parking displacement, limited access around pole locations, and disruption of local transit services. Impacts resulting from temporary disruption of established land uses (Impact L-3) due to restricted access during construction would be considered significant but mitigable (Class II). To reduce construction related impacts to less than significant Mitigation Measures L-3a (Construction Notification) and L-3b (Public Liaison and Information Hotline) are provided. In addition, Mitigation Measure T-1a (Prepare Transportation Management Plan) and T-1b (Restrict Lane Closures) described in *Section D.12, Transportation and Traffic*, would reduce impacts to established land uses resulting from construction related traffic.

Impacts associated with long-term disruption of established land uses by maintenance operations and unauthorized use of access roads would be unchanged from impacts described for the Proposed Project. Maintenance operations would not be substantially different than current levels and established land uses adjacent to the ROW are not anticipated to be disrupted or displaced. Gates would be installed where new access roads are constructed to minimize unauthorized access. Therefore, disruption to established land uses (Impact L-3) along the Proposed Project ROW due to increased access is considered to be less than significant requiring no mitigation (Class III).

Displacement of established land uses would occur in the same manner as the proposed overhead component of the project (see *Section D.7.3.3*) where ten steel poles associated with construction of the 230 kV line would be located in areas currently occupied by parking storage areas and recreational parks. However, this impact would be offset by the removal of over 40 existing lattice structures located between the South Bay Power Plant and the Proctor Valley Substation currently occupied by parking, storage areas and recreational parks. Steel poles associated with the 138 kV line proposed as part of the Transmission System Alternative (between Proctor Valley Substation and the Miguel Substation) would not affect established land uses as these poles would be located within SDG&E's ROW in areas that are currently vacant and undeveloped. Impacts resulting from displacement of established land uses (Impact L-4) would be reduced with adherence to APM 45 and 46 which require coordination with the property owner to identify the precise location of transmission towers to minimize displacement impacts. Implementation of Mitigation Measure L-4a would mitigate potential impacts caused by APMs 45 and 46 and associated displacement impacts to less than significant (Class II).

Impacts resulting from disruption of recreational facilities during construction would be greater under the Transmission System Alternative than those described for the proposed overhead component of the OMPPA Transmission Project (see *Section D.7.3.3*) due to the additional construction activities required under this alternative. Construction of the additional components and removal of existing lattice towers associated with this alternative would increase the short-term and temporary adverse effects of noise, dust, and restricted access. Impacts to recreational activities during construction due to disruption of the user's enjoyment of a recreational facility (Impact L-5) are considered significant (Class II) but mitigable to less than significant with implementation of Mitigation Measures L-5a (Avoid Peak Usage) and L-5b (Notify Users).

During operation, disruption of recreational facilities would not be significantly different from the existing conditions. Long-term closure of roadways or driveways leading into a park or recreational facility would not be required for maintenance or operation purposes. Under this alternative, long-term disruption to the user's enjoyment of a recreational facility due to views of overhead transmission lines would not occur. As part of this alternative, existing lattice structures visible from eight recreational facilities would be removed, including Bonita Long Canyon Park, Discovery Park, Sunridge Park, Sunbow Park, Greg Rogers Park, Palomar Park, Loma Verde Park, and SDG&E Park. At these recreational facilities, views of lattice structures would be introduced to these recreational facilities. Construction of pole structures for the new 138 kV line between Proctor Valley and Miguel Substations would not affect recreational facilities, as these poles would be located outside of any designated park facilities. Therefore, less than significant impacts requiring no mitigation (Class III) associated with long-term disruption to recreational facilities and activities would occur under this alternative.

Similar to the Proposed Project, the Transmission System Alternative would not cross or run adjacent to any lands designated by the Department of Agriculture as Farmland or any properties under a Williamson Act contract. Therefore, impacts associated with conversion of Farmland to non-agricultural use (Impact L-6) and conflicts with land under a Williamson Act (Impact L-7) are unlikely and would be considered less than significant requiring no mitigation (Class III).

Impacts resulting from conflicts with planned future development would not be significantly different from the Proposed Project under this alternative. The Transmission System Alternative would not preclude planned land use as designated in applicable general plans, community plans, and other long-term planning documents, nor would it be considered an incompatible future land use. This alternative, similar to the Proposed Project, would be located entirely within an existing SDG&E ROW and does not have permanent land requirements outside of the ROW. Therefore, impacts to planned future development (Impact L-8) would be less than significant requiring no mitigation (Class III).

Comparison to the Proposed Project

Land use impacts resulting from the construction and operation of SDG&E's Transmission System Alternative would remain the same as the Proposed Project for Impacts L-1 (Conflict with Applicable Plan, Policy or Regulation), L-2 (Physically Divide an Established Community), L-4 (Displace an Established Land Use), L-6 (Convert Farmland to Non-Agricultural Use), L-7 (Conflict with an Existing Agricultural Use or a Williamson Act Contract) and L-8 (Conflict with Planned Future Development).

Long-term disruption of existing land uses and recreational facilities would be reduced under this alternative due to the removal of existing lattice structures between the South Bay Power Plant and Proctor Valley Substation. However, impacts associated with disruption of existing land uses (Impact L-3) and recreational facilities (Impact L-5) during construction would be slightly greater under this alternative due to the additional construction activities required for removal of existing lattice structures and construction of a new 138 kV line between Proctor Valley and Miguel Substations. Mitigation Measures L-3a (Construction Notification) and L-3b (Public Liason and Information Hotline), as well as Mitigation Measure T-1a (Prepare Transportation Management Plan) and T-1b (Restrict Lane Closures) would reduce construction related impacts associated with disruption of land uses to less than significant (Class II). Mitigation Measures L-5a (Avoid Peak Usage), L-5b (Notify Users), as well as V-1a (Reduce visibility of construction activities and equipment) would mitigate construction related impacts to recreational facilities to less than significant (Class II).

D.7.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if its growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.7.3* for new transmission, but could vary depending on length of transmission line and location pursued. Land use impacts associated with construction of power generation would be more localized and not spread out over a long linear distance as with transmission line development and therefore would be expected to be greater in the given work area.

D.7.5 Mitigation Monitoring, Compliance and Reporting Table

Table D.7-8 shows the mitigation monitoring, compliance, and reporting program for land use. The CPUC is responsible for ensuring compliance with the mitigation monitoring, compliance and reporting program. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.7-8* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.7-8*, located at the end of this section, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

	TABLE D.7-8 MITIGATION MONITORING PROGRAM – LAND USE AND RECREATION									
No	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
L-3	Disrupt an established land use.	L-3a		Provide Construction Notification and Minimize Construction Distrubance. SDG&E or its construction contractor shall provide advance notice, between two and four weeks prior to construction, by mail to all residents or property owners within 300 feet of the alignment. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. SDG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. Prior to construction, copies of all notices shall be submitted to the CPUC.SDG&E shall construct during the night in areas where a local jurisdiction requests such timing to reduce construction disruption, if it can be demonstrated that significant noise impacts would not occur. Whether requested by either SDG&E or the local jurisdiction, SDG&E shall provide written evidence of local jurisdiction approval to the CPUC prior to the start of any night work. SDG&E shall also provide analysis of noise impacts and proposed mitigation measures for any residents or other sensitive land uses that would be affected by nighttime construction.	SDG&E shall conduct public notification as defined.	SDG&E to provide CPUC with construction notices for review and approval at least 60 days prior to construction. Notices to provide advanced notice of construction activities in order to limit noise, dust, and disruption impacts.	Prior to and during construction. for all residences and property owners within 300 feet of the project alignment applicable from the Miguel Substation to the Old Town Substation.			
		L-3b		Provide Public Liaison Person and Information Hotline. SDG&E shall identify and provide a public liaison person before and	SDG&E to provide public liaison and telephone number.	SDG&E to provide procedures and bi- monthly reports to the	Prior to and during construction. for all residences and property owners within 300 feet of the project alignment			

	TABLE D.7-8 MITIGATION MONITORING PROGRAM – LAND USE AND RECREATION								
No	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure L-3a. SDG&E shall also establish a telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures shall be submitted to the CPUC for review and approval prior to construction and bi-monthly reports summarizing public concerns shall be provided to the CPUC during construction.		CPUC for review and approval prior to and during construction, and provide evidence to the CPUC that a liaison person has been identified to address public concerns.	applicable from the Miguel Substation to the Old Town Substation.		
		L-3c		Provide Continuous Access to Properties. SDG&E or its construction contractor shall provide at all times the ability to quickly lay a temporary steel plate trench bridge upon request to ensure driveway access to businesses and residences, and shall provide continuous access to properties when not actively constructing the underground cable alignment. In the event that trench stability could be compromised by the laying of a temporary steel plate bridge during an early phase of trench construction, the construction contractor may defer a request for access to the soonest possible time until the stability of the trench has been assured, provided SDG&E has provided 48-hour advance notification of the potential for disrupted access to any business or residence that may experience such delayed access. The notification shall include information on	SDG&E to implement measure as defined.	CPUC to inspect periodically to verify compliance and continued access to properties is maintained.	During construction along alignment from Sicard Street Transition Station to Old Town Substation.		

	TABLE D.7-8 MITIGATION MONITORING PROGRAM – LAND USE AND RECREATION								
No	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				restoring access and the estimated amount of time that access may be blocked. In addition, SDG&E shall develop construction plans that will minimize driveways blocked during the workday.					
		L-3d		Coordinate with Businesses. Where private parking lots serving businesses would be effectively blocked during construction, SDG&E shall either make prior arrangements with the business owner(s) to provide alternative parking within reasonable walking distance (i.e., no more than 1,000 feet), or shall coordinate the construction schedule so as to prevent disrupting the functions of the business(es).	SDG&E to implement measure as defined.	SDG&E to provide copy documentation verifying compliance with measure to ensure minimization of impacts to parking.	Prior to construction for the underground segment between Sicard Street Transition Station and Old Town Substation.		
			APM 45	To the extent feasible, project facilities would be installed along the edges or borders of private property, open space parks, and recreation areas. When it is not feasible to locate project facilities along property borders, SDG&E would consult with affected property owners to identify facility locations that create the least potential impact to property and are mutually acceptable to property owners. When SDG&E cannot mutually resolve facility locations with property owners, SDG&E would pay just compensation to those property owners based on the facility locations identified by SDG&E.	SDG&E to implement measure as defined.	SDG&E to provide documentation substantiating coordination efforts to minimize displacement impacts to land use.	Prior to construction of new overhead facilities primarily between the Miguel Substation and Sicard Street Transition Station.		
			APM 46	To the extent feasible during final engineering design, coordinate the installation location of the project facilities line with landowners and/or the government agency having jurisdiction and/or the local government having an interest in the location of the facilities.	SDG&E to implement measure as defined.	SDG&E to provide documentation substantiating coordination efforts to minimize displacement impacts to land use.	Prior to construction of new overhead facilities primarily between the Miguel Substation and Sicard Street Transition Station.		

	TABLE D.7-8 MITIGATION MONITORING PROGRAM – LAND USE AND RECREATION								
No	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				When SDG&E cannot resolve facility locations in coordination with affected property owners that create the least potential impact to property and that are mutually acceptable to property owners, SDG&E would pay just compensation to those property owners based on the facility locations identified by SDG&E.					
			50	See Table D.7-4 for description of APM 50.					
L-5	Substantially deteriorate a recrea- tional facility or disrupt recreational activities	L-5a		Avoid peak recreational usage. SDG&E shall not schedule construction during times of peak usage (i.e., weekends and holidays) at the following recreational areas and provide documentation substantiating coordination efforts with various affected recreational parks to the CPUC for review and approval prior to construction: Bonita Long Canyon Park Discovery Park Sunridge Park Sunbow Park Greg Rogers Park Palomar Park Rienstra Ballfields Loma Verde Park SDG&E Park Pepper Park Marina View Park Chula Vista Bayfront Park Bay Boulevard Park Sweetwater Marsh National Wildlife Refuge Pepper Park Cesar Chavez Park Chicano Park Crosby Street Park Martin Luther King Junior Promenade	SDG&E to implement measure as defined.	SDG&E to provide documentation substantiating coordination efforts with various affected recreational parks to the CPUC for review prior to construction to verify compliance and ensure minimization of disruption to peak recreational use.	Prior to and during construction for all parks listed in mitigation measure.		

	TABLE D.7-8 MITIGATION MONITORING PROGRAM – LAND USE AND RECREATION							
No	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
				 Pantoja Park San Diego River Any other recreational resource the CPUC determines to be impacted by construction. If the CPUC determines another recreational resource is being impacted during peak recreational hours, SDG&E shall reschedule the appropriate construction activities such that they occur outside times of peak usage (i.e., weekends and holidays). 				
		L-5b		 Notify users of recreational resources. During construction, SDG&E shall provide appropriate notice to all affected recreationists by doing the following: Onsite notification of recreational access closures at least thirty days in advance, through the posting of signs and/or other notices at all public entrances and/or other areas of high visibility (i.e., visitors' center, clubhouse, etc.) Public notification through community newspapers and bulletins. Documentation of such notification shall be submitted to the CPUC. 	SDG&E shall conduct notification as defined.	SDG&E to provide the CPUC with construction notice for review to ensure minimization of disruption to recreational resources.	Prior to and during construction for all recreational resources listed in Mitigation Measure L-5a.	

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

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D.8 NOISE AND VIBRATION

This section addresses the Proposed Project and alternatives, as they would affect the community noise environment or cause disruptions from vibration. *Section D.8.1* provides a description of the existing noise setting, and the applicable noise ordinances and limitations are introduced in *Section D.8.2*. An analysis of the Proposed Project impacts is provided in *Section D.8.3*, and the noise and vibration impacts related to alternatives are described in *Section D.8.4*. *Section D.8.5* provides mitigation monitoring, compliance, and reporting information.

D.8.1 Environmental Setting for the Proposed Project

This section provides a description of ambient noise levels and sensitive noise receptors along the OMPPA Transmission Project corridor. Ambient noise level measurements were obtained at various sampling points during preparation of the technical report prepared by Electrical Consultants, Inc. (ECI) in July 2004 for SDG&E. Noise measurements were taken for each segment of the proposed OMPPA Transmission Project, and were sampled along the edge of the SDG&E ROW.

D.8.1.1 General Characteristics of Community Noise

To describe environmental noise and to assess project impacts on areas that are sensitive to community noise, a measurement scale that simulates human perception is customarily used. The basic terminology and concepts of noise are described below. Technical terms are defined in *Table D.8-1*.

TERM	DEFINITIONS		
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.		
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.		
Community Noise Equivalent Level, CNEL	CNEL is the average equivalent A-weighted sound level during a 24-hour day and it is calculated by adding 5 dB to sound levels in the evening (7 pm to 10 pm) and adding 10 dB to sound levels in the night (10 pm to 7 am).		
Decibel, dB	A unit for measuring sound pressure level and is equal to 10 times the logarithm to the base 10 of the ratio of the measured sound pressure squared to a reference pressure, which is 20 micropascals.		
Equivalent Noise Level, Leq	The sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period. Leq is designed to average all of the loud and quiet sound levels occurring over a time period.		

TABLE D.8-1.DEFINITIONS

Sound (noise) levels are measured in decibels (dB). *Table D.8-2* depicts common sound levels for various noise sources. Community noise levels are measured in terms of A-weighted sound level. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria.

TABLE D.8-2TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

Noise Source	A-Weighted Sound Level in Decibels	Noise Environment	Subjective Impression
Civil Defense Siren (100 ft.)	130		
	120		Threshold of pain
	110	Rock Music Concert	
Pile Driver (50 ft.)	100		Very loud
Power Lawn Mower (3 ft.)			
Motorcycle (25 ft.)	90	Boiler Room	
Diesel Truck (50 ft.)		Printing Press Plant	
Garbage Disposal (3 ft.)	80		Moderately loud
Vacuum Cleaner (3 ft.)	70		
Normal Conversation (3 ft.)			
	60		
		Department Store	
Light Traffic (100 ft.)	50	Private Business Office	
Bird Calls (distant)	40		Quiet
Soft Whisper	30	Quiet Bedroom	
	20	Recording Studio	
	10		Just Audible
	0		Threshold of hearing

People are generally more sensitive and annoyed by noise during the evening and nighttime. Thus, another noise descriptor used in community noise assessments termed the Community Noise Equivalent Level (CNEL) was introduced. The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted sound level. CNEL accounts for the increased noise sensitivity during the evening (7:00 pm to 10:00 pm) and nighttime hours (10:00 pm to 7:00 am) by adding five and ten dBs, respectively, to the average sound levels occurring during these hours. Another noise descriptor termed the Day-Night Average Sound Level (Ldn) is also used. The Ldn is similar to CNEL except there is no penalty to the noise level occurring during the evening hours.

Human activities cause community noise levels to be widely variable over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq). The Leq, or equivalent sound level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually one hour. The noise level that is exceeded 50 percent of the time (L_{50}) is a level that is normally less than the Leq, except for especially steady noise levels, in which case, it may be similar to or slightly greater than the Leq.

Community noise levels are usually closely related to the intensity of nearby human activity. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas (e.g., areas located near downtown San Diego), and levels up to 85 dBA occur near major freeways and airports. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse to public health.

D.8.1.2 Noise Environment and Sensitive Noise Receptors in the Project Area

The existing noise levels along the Project alignment varies widely throughout the study area. The noise environment ranges from quiet uninhabited areas to rural residential and construction/ industrial zones. As such, different levels of noise are present at the various sites throughout the study area. Background sound levels were measured at nine representative locations throughout the study area from July 8 through July 9, 2004. The actual levels measured are given in *Table D.8-3*.

A wide range of noise sources occur in the Project area due to the various land uses traversed by the transmission corridor. Ambient noise levels tend to be lowest in the rural and open areas away from the highways and industrial or commercial uses of the suburban areas. Noise levels in the project area are the highest near major transportation facilities, especially the freeway crossings, and near other localized noise sources such as San Diego International Airport.

Sensitive noise receptors are facilities or areas (e.g., residential areas, hospitals, schools, etc.) where excessive noise may convey annoyance. Noise sensitive receptors are distributed throughout the project corridor. Single-family and multi-family homes are common in numerous areas adjacent to the OMPPA Transmission Project corridor. Schools, religious facilities, hospitals, and parks are also present within one-quarter mile of the ROW. *Section D.7, Land Use*, of this EIR identifies these sensitive uses when they are near the alignment. Open space,

industrial, and commercial areas are only considered noise sensitive if they are used for recreation.

TABLE D.8-3 AMBIENT NOISE MEASUREMENTS OMPPA TRANSMISSION PROJECT STUDY AREA

Noise Environment	Location	Time	Lmax ¹ (dB)	Lmin ² (db)
Sycamore Canyon to Fanita Jun	ction			
Vacant	M.P.3 site MS-2A	9:20 – 9:30 AM	46.0	44.0
	M.P.3 site MS-2B	9:20 – 9:30 AM	46.0	45.0
Miguel Substation to South Bay	Power Plant			
Residential, urban, commercial	M.P. 36.7 site MO-1A	9:40 – 9:55 AM	56.0	53.0
	M.P. 36.7 site MO-1B	9:40 – 9:55 AM	56.0	51.0
	M.P. 38.6 site MO-1C	9:40 – 9:55 AM	52.0	50.0
	M.P. 38.6 site MO-1D	9:40 – 9:55 AM	54.0	50.0
South Bay Power Plant to Old T	own Substation			
Commercial, industrial	M.P. 39 site MO-2A	9:20 – 9:30 AM	56.0	55.0
	M.P. 39 site MO-2B	9:20 – 9:30 AM	55.0	52.0
	M.P. 39 site MO-2C	9:20 – 9:30 AM	54.0	52.0

Source: ECI July 2004

Notes: 1 Maximum sound level recorded during noise measurement

² Minimum sound level recorded during noise measurement

* Not measured; assumed to be similar to South Bay to Sicard Street

A description of the existing noise environment and sensitive noise receptors is presented below. Also see *Section D.7, Land Use,* and *Figure D.7-2, Existing Land Use Maps 1 through 5b.*

Sycamore Canyon Substation to Fanita Junction

The Sycamore Canyon Substation to Fanita Junction Segment is located on military land in the northeastern portion of the City of San Diego. Surrounding land uses are generally characterized as undeveloped and no sensitive receptors are located along the OMPPA Transmission Project corridor.

The main source of noise is generated by military aircraft. The level of this noise source varies depending on the type and number of aircraft and the flight schedule. An existing 138 kV and 230 kV line between the Sycamore Substation and Fanita Junction cause a certain amount of corona noise. This is audible power line noise that is generated from electric corona discharge, which is usually experienced as a random crackling or hissing sound. Corona noise is primarily audible during wet weather conditions such as fog and rain. Ambient noise levels were sampled near mile-post 3.0 along the edge of the existing SDG&E ROW. Background noise levels ranged from 44 dB to 46 dB (ECI 2004).

Miguel Substation to South Bay Power Plant

A small portion of the Miguel Substation to South Bay Power Plant Area Segment is situated within the community of Sweetwater in unincorporated eastern San Diego County with the majority of this segment located within the City of Chula Vista. Within the unincorporated portion of the alignment, surrounding land uses are generally characterized as undeveloped with no sensitive noise receptors identified.

Within the City of Chula Vista, the primary sources of noise include traffic along freeways and major roadways, as well as commercial and industrial activities associated with shopping malls and business parks. Localized traffic-related noise occurs at the crossings of Otay Lakes Road (mile-post 30.8), East H Street (mile-post 31.8), Telegraph Canyon Road (mile-post 32.8), I-805 (mile-post 33.8), Broadway (mile-post 36.6), Palomar Street (mile-post 37.1), and I-5 (mile-post 37.5). Other sources of noise include the San Diego trolley and freight trains, which pass through the proposed OMPPA Transmission corridor near mile-post 37.6.

Ambient noise levels were measured near mile-post 36.7 and mile-post 38.6 along the edge of the SDG&E ROW. Background noise levels along this segment ranged from 50 dB to 56 dB (ECI 2004).

A number of sensitive noise receptors occur immediately within or adjacent to the proposed OMPPA Transmission Project corridor, including residences, parks and schools. The portion of the City of Chula Vista crossed by the transmission corridor is built-out and residential neighborhoods predominate both sides of the corridor, from approximately the Bonita area (milepost 30) west to I-5. Interspersed with the residential neighborhoods are numerous parks and schools. The following are recreational parks and schools located within or immediately adjacent to the ROW.

- Bonita Long Canyon Park (mile-post 30.0)
- Discovery Park (mile-post 31.1)
- Sunridge Park (mile-post 32.6)

- Sunbow Park (mile-post 33.0)
- Greg Rogers Park (mile-post 33.5)
- Greg Rogers Elementary School (mile-post 33.5)
- Loma Verde Park (mile-post 34.9)
- SDG&E Park (mile-post 35.1)
- Sweetwater Marsh National Wildlife Reserve (mile-post 40.5)

From approximately mile-post 38.0 near the South Bay Power Plant to mile-post 41.0, the OMPPA Transmission Project corridor is parallel to I-5 and crosses primarily industrial land uses. With the exception of the Sweetwater Marsh National Wildlife Reserve, no other sensitive noise areas are identified for this segment of the project corridor.

South Bay Power Plant Area to Sweetwater River Transition Area

From the South Bay Power Plant Area to Sweetwater River, the project alignment is within highly urbanized areas of the City of Chula Vista. The OMPPA Transmission Project corridor generally parallels I-5 along this segment. Land uses adjacent to the OMPPA Transmission Project corridor along this segment include industrial and vacant.

The primary noise source along this segment is due to traffic noise associated with I-5. Ambient noise levels measured near mile-post 39 along the edge of the existing SDG&E ROW ranged from 52 dB to 56 dB. No schools, parks or other sensitive land uses occur within or adjacent to the transmission corridor.

Sweetwater River Transition Area to Sicard Street Transition Area

From the Sweetwater River Transition Area, the proposed corridor crosses the Sweetwater River and is within highly urbanized areas of National City and the City of San Diego where ambient noise levels are expected to be similar to those measured for the South Bay Power Plant Area to Sweetwater River Transition Area. The proposed corridor generally parallels I-5 and crosses several major roadways. Urban land uses adjacent to the proposed corridor include industrial, transit and military. Localized traffic-related noise occurs at the crossings of I-5 (mile-post 41.3 and mile-post 42.3), 24th Street (mile-post 41.6), and West 8th Street (mile-post 42.5). Other sources of noise include the San Diego trolley, which has a stop near mile-post 41.6 and freight trains traveling on the San Diego Imperial Valley Railroad located on the west side of I-5.

No sensitive noise receptors have been identified along the OMPPA Transmission Project corridor between the Sweetwater River and Sicard Street Transition Area. No schools, parks or other sensitive land uses occur within or adjacent to the transmission corridor.

Sicard Street to Old Town Substation

From the Sicard Street Transition Area, the proposed OMPPA Transmission Project corridor crosses through the downtown portion of the City of San Diego where ambient noise levels are expected to be similar to those measured for the South Bay Power Plant Area to Sweetwater River Transition Area. Localized sources of noise in this area would include sporting events held at Petco Park, retail areas of the Gaslamp District, Seaport Village and the Embarcadero. Localized traffic related noise is associated with the San Diego trolley and motorists traveling on Harbor Drive.

The OMPPA Transmission Project corridor continues north on Pacific Highway from Harbor Drive at mile-post 47.0 to Old Town. Source of noise include San Diego International Airport, San Diego trolley, Amtrak and Coaster, as well as traffic noise generated by the museums, San Diego Cruise Ship Terminal, Historic Old Town District and other tourist attractions along Pacific Highway.

While a majority of the Sicard Street to Old Town corridor is located within industrial, commercial and retail areas, there are some residential land uses adjacent to the corridor. Several high rise condominiums and apartments are located along Harbor Drive in the downtown area and single-family residential occur adjacent to the proposed transmission corridor in the community of Linda Vista. These residential land uses are considered sensitive noise areas.

D.8.2 Applicable Regulations, Plans and Standards

Regulating environmental noise is generally the responsibility of local governments. U.S. EPA once published guidelines on recommended maximum noise levels to protect public health and welfare (U.S. EPA, 1974), and the State of California maintains recommendations for local jurisdictions in the General Plan Guidelines published by the Governor's Office of Planning and Research (OPR, 1998). The following summarizes the federal and State recommendations and the local requirements.

D.8.2.1 Federal and State Standards

There are no federal noise standards that directly regulate environmental noise. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR Section 1910.95, Code of Federal Regulations). OSHA specifies that sustained noise over 85 dBA can be a threat to workers' hearing.

The State of California requires each local government to perform noise surveys and implement a noise element as part of their general plan. Generally speaking, noise levels less than 60 Ldn are acceptable for all land uses, including residences, schools, and other noise sensitive receptors. Sustained noise levels greater than 70 Ldn are normally unacceptable for most noise sensitive land uses, and levels between 60 and 70 Ldn are usually considered conditionally acceptable, because the structures where the receptors reside normally provide some level of insulation (OPR 1998).

D.8.2.2 Local Noise Ordinances and Policies

Each local government aims to protect its residents from intrusive noise. Applicable local noise ordinances and policies are described below.

San Diego County Code of Regulatory Ordinances. Acceptable noise levels for construction activities are defined in the Section 36.410 of County Regulatory Ordinances. Except for emergency work, it is unlawful to operate construction equipment on Sundays, legal holidays, and between the hours of 7:00 p.m. and 7:00 a.m. for all other days. During daytime hours, construction equipment must not cause noise levels above 75 dBA for more than an 8-hour period at residential properties.

Noise from operation of public utilities in San Diego County is subject to the limitations of Section 36.404 of the Regulatory Ordinances. Transmission line noise in residential areas (including rural and low density residences) must not exceed 50 dBA Leq during daytime hours, or 45 dBA Leq between 10:00 p.m. and 7:00 a.m. These levels apply at or beyond six feet from the boundary of the easement for the transmission line.

City of San Diego Municipal Code. The City of San Diego Municipal Code (Chapter 5, Article 9.5, Division 4) restricts noise between properties. The most restrictive standard for low-density residential areas during nighttime hours (between 10:00 p.m. and 7:00 a.m.) is 40 dBA Leq.

Construction noise must be limited to daytime hours between 7:00 a.m. and 7:00 p.m., Monday through Saturday, and is not to exceed an average sound level of 75 dBA at residential property boundaries during the 12-hour period.

City of National City Municipal Code. The City sets exterior noise limits for properties (Title 12, Chapter 12.06) with the most restrictive standard, 45 dBA, for residential areas containing less than nine dwelling units (Section 12.06.040). Noise levels may not exceed a one-hour average sound level of 45 dBA in these areas during nighttime hours of 10:00 p.m. and 7:00 a.m.

The City of National City prohibits construction noise from 7:00 p.m. to 7:00 a.m. Monday through Saturday, Sundays and holidays (Section 12.10.160). Mobile construction equipment used for short-term operation may not exceed 75 dBA in residential areas and 85 dBA in semi-residential/commercial areas. Stationary construction equipment used in excess of 10 days may not exceed 60 dBA in residential areas and 70 dBA in semi-residential/commercial areas.

City of Chula Vista Municipal Code. Section 19.68.030 defines exterior noise limits for receiving land uses. The most restrictive standard is applied to residential areas where noise levels may not exceed a one-hour average sound level of 45 dBA during nighttime hours and 55 dBA during daytime hours. However, construction activities are exempt from exterior noise standards as stated in Section 19.68.060 of the City's Municipal Code.

Construction noise limits are defined in Title 17, Chapter 17.24 of the City's Municipal Code. The City of Chula Vista does not permit construction noise in residential areas between the hours of 10:00 p.m. to 7:00 a.m. Monday through Friday, and between 10:00 p.m. to 8:00 a.m. on Saturdays and Sundays (Section 17.24.050).

Noise from operation of public utilities in the City of Chula Vista is subject to the limitations of Section 19.68.030 of the Municipal Code. Fixed location public utility distribution of fixed transmission facilities in residential areas must not exceed a one-hour average sound level of 55 dBA during daytime hours, or 45 dBA between 10:00 p.m. and 7:00 a.m. These levels apply at or beyond six feet from the boundary of the easement for the transmission line.

D.8.2.3 Regulation of Construction-Related Vibration

Construction-related vibration is not commonly regulated by local municipalities. Although the San Diego County Zoning Ordinance has established limits on vibration (Section 6314), vibration that is caused by short-term, temporary construction is exempt from the standards. The City of San Diego Municipal Code restricts vibration from industrial facilities (Chapter 14, Article 1, Division 6).

Both the cities of National City (Section 12.10.108 of Municipal Code) and Chula Vista (Section 19.68.050 of Municipal Code) limit the operation of any device that creates a vibration which exceeds the vibration perception threshold at or beyond the property boundary of the source on private property, or at a distance of one hundred fifty feet or more from the source if originating from a location on a public space or public ROW.

D.8.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.8.3.1 Definition and Use of Significance Criteria

Significance of noise impacts depends on whether the project would increase noise levels above the existing ambient levels by introducing new sources of noise. The following significance criteria are based on CEQA checklist identified in Appendix G to the CEQA Guidelines. Under CEQA, noise impacts would be considered significant if the OMPPA Transmission Project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels (more than five dBA) in the project vicinity above levels existing without the project; and
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

D.8.3.2 Applicant Proposed Measures

Table D.8-4 presents the APM proposed by SDG&E to reduce project impacts related to noise.

TABLE D.8-4 APPLICANT PROPOSED MEASURE FOR NOISE AND VIBRATION

APM No.	Description
9	A bundled configuration of the conductors would be used on the 230 kV line and relocated 69 kV and 138 kV lines to limit the audible noise, radio interference, and television interference due to corona. Caution would be exercised during construction to try to avoid scratching or nicking the conductor surface, which may provide points for corona to occur. In addition to the bundled configuration conductors, special hardware design would also be used to limit corona potential.

D.8.3.3 230 kV Overhead Transmission Line

Impacts During Construction

Construction of the project would require short-term use of cranes, augers, compressors, air tampers, generators, trucks, and other equipment. Helicopters may also be needed to transport construction materials, remove and install new towers, and to string the conductors for the overhead line. Night work could be necessary to cross I-805 and I-5. Construction of foundations for new towers would require use of a drill rig or large auger at most tower locations. Overhead transmission line work would be distributed along the 18-mile corridor between the Sycamore Canyon Substation to Fanita Junction and from the Miguel Substation to the South Bay Power Plant over an 18-month period. Typical noise levels at 50 feet for the types of construction equipment that would be used are listed in *Table D.8-5*.

	BLE D.8-5 DF CONSTRUCTION EQUIPMENT
Equipment Type	Range of Noise Level (dBA at 50 ft.)
Earthmoving	
Front loaders	72 – 84
Backhoes	72 – 93
Tractors, Dozers	76 – 96
Scrapers, Graders	80 – 93
Pavers	86 – 88
Trucks	82 – 94
Materials Handling	
Concrete mixers/millers	75 – 88
Concrete pumps / spreaders	81 – 83
Cranes (movable)	75 – 86
Cranes (derrick)	86 – 88
Stationary	
Pumps	69 – 71
Generators	71 – 82
Compressors	74 – 86
Drill Rigs	70 – 85
Project-Specific	
Helicopters (in flight, at 150 feet)	80 – 95
Jack Hammers / Rock Drills	81 – 98

Source: SDG&E 2004, CPUC 2004.

Construction activities within the project ROW, staging areas, and substations would create both intermittent and continuous noises. Examples of intermittent construction noise would be the noise from passing trucks, loading operations, or moments of drilling, and continuous noise would be sustained by idling equipment or pumps and generators that operate at constant speeds. The maximum intermittent construction noise levels would range from 84 to 96 dBA at 50 feet during earthmoving for road construction or up to about 95 dBA during helicopter operations for installing the line or certain structures. Continuous noise levels from construction would be lower because most equipment would not be operated steadily. At 50 feet, continuous noise levels would range up to approximately 77 dBA. At 100 feet, these levels would range up to 71 dBA, and at 200 feet, 65 dBA. These levels would diminish over additional distance and could be reduced further by intervening structures. For overhead transmission line work, no sources of vibration would be expected to affect receptors outside of the work area.

Construction would also cause noise offsite, primarily from commuting workers and from trucks and helicopters needed to bring materials to the construction sites. Workers would likely meet at various staging areas and then travel to the construction site in crews. Haul trucks would make trips to bring poles, conductor line, and other materials to the construction sites and remove excavated material and waste. The peak noise levels associated with passing trucks and commuting worker vehicles would be approximately 75 dBA to 85 dBA at 50 feet.

Impact N-1: Construction Activities Would Temporarily Increase Local Noise Levels

Construction noise could substantially, but temporarily, increase ambient noise levels in the vicinity of the overhead line work, including tower locations and access routes. While noise levels will vary for different construction tasks, the maximum expected noise levels would occur from stages of construction involving dozers and rock drilling equipment. The projected maximum intermittent noise level would range from 84 to 96 dBA at 50 feet during earthmoving activities and up to 95 dBA during helicopter operations for installing the line or certain structures. Depending on the persistence of construction activity and its proximity to the numerous residential and other sensitive receptors in the project area and along haul routes, construction noise could exceed the 75 dBA standards of the local jurisdictions. This could occur at sensitive land uses within 200 feet of the construction equipment during those days when heavy activity occurs and therefore is considered potentially significant. Implementation of Mitigation Measure N-1a, N-1b and N-1c would mitigate temporary construction-related noise impacts to less than significant (Class II).

Mitigation Measures for Impact N-1, Construction Noise

- N-1a SDG&E shall conduct construction activities between 7:00 AM and 7:00 PM (Monday through Saturday), or for a shorter period if so stipulated in the relevant local (City or County) noise ordinance. Exceptions shall apply only where nighttime and weekend construction activities are necessary to mitigate for traffic impacts (see Mitigation Measure T-1a, T-1b and T-9b).
- **N-1b Provide advance notice of construction.** SDG&E or its construction contractor shall provide advance notice, between two and four weeks prior to construction, by mail to all sensitive receptors and residences within 300 feet of construction sites, staging areas, and access roads. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. The notice shall also advise the recipient on how to inform the Applicant/contractor if specific noise or vibration sensitive activities are scheduled so that construction can be rescheduled, if necessary, to avoid a conflict. SDG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. Prior to public notification, copies of all notices shall be submitted to the CPUC for review and approval.
- **N-1c Provide liaison for construction nuisance complaints**. SDG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring receptors, including residents, about noise construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure N-1b. SDG&E shall also establish a toll free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers. Prior to public notification, procedures included in the notices shall be submitted to the CPUC for review and approval. SDG&E shall provide to the CPUC a bi-monthly letter report on the number of calls received and a summary of caller concerns and how concerns were addressed.

Impact N-2: Vibration Could Cause a Temporary Nuisance During Construction

Vibration levels from heavy equipment transport, grading, and/or pile-driving activities may be perceptible to residents or workers in nearby commercial areas and business parks in structures immediately adjacent to the construction work. The peak vibration levels from pile driving activities at 50 feet would likely be perceptible for the brief moment of impact; other

construction activities, such as a heavy truck passing over large potholes or bumps, could also produce perceptible vibration within about 50 feet. Although the detectability of vibration is highly dependent on the soil type at the construction site, the type of equipment used, and the structure of the building receptor, construction could cause annoyance for a sensitive receptor within about 50 feet of construction work. This impact could occur during construction of the project, including the overhead line, underground line, or substation work.

Implementing previously identified mitigation measures (N-1a, N-1b and N-1c) for managing noise nuisances would provide advance notice of the construction schedule to nearby property owners. With these measures, nuisances from vibration would be avoided, and this temporary impact would be mitigated to a level that is less than significant (Class II).

Mitigation Measures for Impact N-2, Vibration

Implementation of Mitigation Measures N-1a, N-1b and N-1c would ensure that sensitive receptors are provided advanced notice of the work and provide a means for SDG&E to respond to concerns of those receptors.

Operational Impacts

Impact N-3: Corona Noise from Operation of the Overhead Transmission Line

Audible power line noise would be generated from corona discharge, which is usually experienced as a random crackling or hissing sound. Corona is the breakdown of air very near conductors and occurs when the electric field is locally intensified by irregularities on the conductor surface such as scratches or water drops. Corona, as an issue for transmission lines, is more significant for extra-high voltage lines of 345 kV or above but will also occur on lower voltage lines during rain or fog conditions. The physical manifestations of corona include a crackling or hissing noise and very small amounts of light. Besides the nuisance aspects of corona, it also results in undesirable power loss over a transmission line. Therefore, the design of transmission lines incorporates specific conductor and equipment designs to limit or eliminate corona.

The highest noise level generated by the 230 kV line during fair weather conditions would be below the ambient noise level at ground level. During rain or fog, however, the highest noise level at the edge of the ROW is not expected to exceed 45 dBA (SDG&E 2004). This would not be above the daytime ambient noise levels in the project area (see *Table D.8-3*), and it would not be in excess of standards in the local noise ordinances for the adjacent properties. To reduce possible noise from the corona effect, the Applicant has proposed APM 9 to limit the audible

noise due to corona as well as steps to preserve the quality of the conductor. As such, corona noise would be a less than significant impact, requiring no further mitigation (Class III).

Impact N-4: Noise from Inspection and Maintenance Activities

Routine inspection and maintenance of the transmission lines would be accomplished with either ground access or occasional helicopter fly-over. This would cause short-term or intermittent increases in noise along the route of the inspection or maintenance. No increases in frequency of inspections or maintenance are expected as a result of the Proposed Project in the overhead section, beyond the inspections and maintenance that is currently required within SDG&E's existing ROW. As such, the noise impact from these activities would be less than significant, requiring no mitigation (Class III).

D.8.3.4 230 kV Underground Cable

Impacts During Construction

Work on the underground segments of the line would require short-term use of backhoes, boring equipment, dump trucks, mobile cranes, haul trucks and street sweepers. Night work would probably be necessary in several areas where daytime traffic cannot be rerouted. As with the overhead portion of the line, the maximum intermittent construction noise levels would range up to 96 dBA at 50 feet during earthmoving activities. At 50 feet, continuous noise levels would range up to about 77 dBA. At 100 feet, these levels would range up to 71 dBA, and at 200 feet, 65 dBA. These levels would diminish over additional distance and could be reduced further by intervening structures.

Similar to impacts identified for construction of the overhead line, construction noise for the underground segments could substantially, but temporarily, increase ambient noise levels in the vicinity of the work (Impact N-1). Implementation of Mitigation Measures N-1a, N-1b and N-1c would mitigate temporary construction-related noise impacts associated with installation of the underground cable to less than significant (Class II).

The impact of vibration during construction (previously identified, *Section D.8.3.3, Impact N-2*) could occur along the underground line and would warrant implementation of Mitigation Measures N-1a, N1-b and N-1c. With these measures, property owners that may be conducting vibration-sensitive work would be able to coordinate the construction schedule with the public liaison. This would mitigate the potential impact of vibration from construction to a level that is less than significant (Class II).

Operational Impacts

The permanent noise sources that would occur with operation of the underground transmission line are limited to routine inspection and maintenance. Similar to the overhead portion of the line, inspection or maintenance would cause occasional noise (*Section D.8.3.3, Impact N-4*). Because inspection or maintenance would be infrequent, operation of the underground line would cause a less than significant noise impact, requiring no mitigation (Class III).

D.8.3.5 Transition Station

Construction of the transition station would be a temporary source of noise and vibration similar to that described in *Section D.8.3.3* above (Impacts N-1 and N-2). The nearest sensitive receptor is approximately 500 feet from the proposed transition station site at the corner of Newton and Sicard Street, a distance sufficient to avoid potential construction noise or vibration impacts. Therefore, impacts would be less than significant, requiring no mitigation (Class III).

After construction of the transition station is complete, there would be no source of noise at the transition station other than potential corona noise. Potential corona noise due to the transition station would be less than significant, requiring no further mitigation (Class III) as described in *Section D.8.3.3* above (Impact N-3). Similar to the overhead portion of the line, inspection or maintenance would cause occasional noise from trucks and small work crews (Impact N-4). Because inspection and maintenance would be infrequent, operation of the transition station would cause a less than significant noise impact, requiring no mitigation (Class III).

D.8.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

Construction Impacts

Construction of modifications to the substations would generate a temporary source of noise and vibration similar to that described in *Section D.8.3.3* above (Impacts N-1 and N-2). The equipment needed to complete the work would include various trucks, concrete mixers, cranes, and welders for structure fabrication. The potential noise impact (Impact N-1) associated with construction of these facilities would also result in less than significant impacts with implementation of Mitigation Measures N-1a, N-1b and N-1c (Class II).

The impact of vibration during construction (previously identified, *Section D.8.3.3, Impact N-2*) could occur during substation work. With implementation of Mitigation Measures N-1a, N-1b and N-1c any vibration during construction would be less than significant (Class II).

Operational Impacts

The permanent noise sources that could occur with operation of the substations, switchyards, and taps would include new power transformers or converters and any activity for routine inspection and maintenance. Because visits for routine inspection and maintenance would be infrequent, no significant noise increase would occur. Additional noise produced at the substations may be generated by activation of line breakers, which would create an occasional instantaneous sound in the range of 75 to 90 dBA (SDG&E 2004).

No sensitive receptors are located within the vicinity of either the Sycamore Canyon Substation or Miguel Substation and therefore, no impact to ambient noise levels or exposure to sensitive receptors due to operation of proposed modifications to these substations would occur. The Old Town Substation is located within a residential area. The new breakers proposed at the Old Town Substation would emit a short-term (instantaneous) sound at approximately 75 to 95 dBA (SDG&E 2004).

The City of San Diego's noise ordinance specifies a one-hour average noise level of 55 dBA at the boundary between a multi-family and commercial zone, as the acceptable limit during the most restrictive time period (i.e., 10:00 PM to 7:00 AM). Because operational noise from the proposed modification would be short-term (instantaneous), operation of the proposed modifications are not expected to exceed the City limit of 55 dBA along the adjoining property line and therefore would be less than significant (Class III).

D.8.4 **Project Alternatives**

D.8.4.1 SDG&E Design Option Alternatives (Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.8.1 describes the ambient noise setting along the Project alignment. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing ambient noise conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. The underground portion of the Project would take place in previously graded areas associated with existing City of San Diego roadways, primarily within commercial and industrial areas. Impacts to ambient noise and groundborne vibration through project-related excavation (Impacts N-1 and N-2) would be offset by eliminating the noise and vibration associated with direction drilling under the San Diego River as proposed. Similar to impacts identified for construction of the proposed underground cable portion of the Project, construction noise and vibration for the increased trenching required under the Pacific Highway Bridge Attachment Alternative could substantially, but temporarily, increase ambient noise levels and vibration in the vicinity of the work. Implementation of Mitigation Measures N-1a, N-1b and N-1c would ensure that all construction generated noise associated with the Pacific Highway Bridge Attachment Alternative would be in compliance with applicable requirements and therefore would have a less than significant impact (Class II).

Harbor Drive Bridge Attachment Design Alternative: The Harbor Drive Bridge Attachment design option is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. Because this alternative entails only the attachment of the proposed 230 kV cable to the existing Harbor Drive Bridge, less than significant impacts requiring no mitigation (Class III) to noise and vibration would occur due to implementation of this alternative.

Sicard Street Transition Cable Pole Design Alternative: Short-term temporary constructionrelated noise and vibration (Impact N-1 and N-2) as well as noise from operation (Impact N-3 and N-4) would occur in the same manner as described in *Section D.8.5* for the proposed Sicard Street Transition Station which were determined to be less than significant requiring no mitigation (Class III).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River overhead option primarily consists of minor modifications to existing structures, project-related noise and vibration impacts (Impact N-1) and (Impact N-2) would be less than significant, requiring no mitigation (Class III). Under this alternative, audible power line noise would be generated (Impact N-3) similar to that described for the Proposed Project Overhead Option (see Section D.8.3.3). Similar to the Proposed Project's overhead component, corona noise generated by the South Bay Power Plant to Sweetwater River Overhead Option (Impact N-3) would be less than significant, requiring no further mitigation (Class III).

Comparison to the Proposed Project

Noise impacts resulting from the construction and operation of SDG&E's Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and the Sicard Street Transition Cable Pole design alternatives would not be significantly different from the Proposed Project.

Project impacts due to construction noise (Impact N-1) and vibration (Impact N-2) would be reduced under the South Bay Power Plant Area to Sweetwater River overhead option from (Class II) potentially significant requiring mitigation, to less than significant (Class III), no mitigation is required. However, noise impacts associated with operation would slightly increase due to audible power line noise that would be generated by the overhead option. However, such corona noise, as discussed in *Section D.8.3.3*, would be less than significant, requiring no further mitigation (Class III).

D.8.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.8.1 describes the ambient noise setting along the project alignment. Because this alternative would occur in the same area as the Proposed Project, the existing ambient noise conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Construction-related noise and vibration levels would be greater under the Transmission System Alternative when compared to the Proposed Project due to the additional construction activities required for the removal of 138kV overhead transmission line and associated 46 lattice towers, construction of a 138 kV overhead transmission line from the Proctor Valley Substation to Miguel Substation, and additional work at the Miguel, Proctor Valley and Los Coches Substations. Sensitive noise receptors, including residences, along the alignment would be exposed to construction noise levels (Impact N-1), as well as vibration levels (Impact N-2). Significant construction related noise impacts (Impact N-1) and vibration impacts (Impact N-2) would be mitigated to less than significant with Mitigation Measures N-1a through N-1c (Class II).

During operation, impacts related to corona noise (Impact N-3) and maintenance activities (Impact N-4) would be the same as the Proposed Project, which were determined to be less than significant, requiring no mitigation (Class III).

Comparison to the Proposed Project

Construction related noise and vibration levels would be greater under this alternative when compared to the Proposed Project. Mitigation measures N-1a through N-1c would mitigate noise impacts associated with construction and vibration to less than significant (Class II). Noise impacts resulting from the operation of the Transmission System Alternative would be substantially the same as the Proposed Project.

D.8.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the No Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.6.3* for new transmission, but could vary depending on length of transmission line and location pursued. However, the environmental impacts of new generation can be significant with respect to noise. New generation would need to comply with local noise ordinances and the CEC licensing process, which would be likely to reduce noise impacts. However, noise impacts associated with the proposed transmission line would be expected to be less than those associated with power generation depending on the type of generation, configuration and location.

D.8.5 Mitigation Monitoring, Compliance and Reporting Table

Table D.8-6 shows the mitigation monitoring, compliance, and reporting program for noise. The CPUC will be responsible for ensuring compliance with the mitigation monitoring, compliance, and reporting program for noise. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.8-6* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.8-6*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

		MITIGATION N			TABLE D.8-6 TIGATION MONITORING PROGRAM – NOISE			
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
N-1	Construction activities would temporarily increase local noise levels.	N-1a		SDG&E shall conduct construction activities between 7:00 AM and 7:00 PM (Monday through Saturday), or for a shorter period if so stipulated in the relevant local (City or County) noise ordinance. Exceptions shall apply only where nighttime and weekend construction activities are necessary to mitigate for traffic impacts (see Mitigation Measures T-1a, T-1b and T-9b).	SDG&E to restrict construction activities as defined and incorporate measure into construction contract.	CPUC to ensure that restrictions have been incorporated into construction contracts. CPUC to inspect periodically for evidence of successful compliance with local noise ordinances.	During construction for all work areas.	
		N-1b		Provide advance notice of construction. SDG&E or its construction contractor shall provide advance notice, between two and four weeks prior to construction, by mail to all sensitive receptors and residences within 300 feet of construction sites, staging areas, and access roads. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. The notice shall also advise the recipient on how to inform the Applicant/contractor if specific noise or vibration sensitive activities are scheduled so that construction can be rescheduled, if necessary, to avoid a conflict. SDG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. Prior to public notification, copies of all notices shall be submitted to the CPUC for review and approval.	SDG&E shall conduct pubic notification as defined.	SDG&E to provide CPUC with construction notices for review and approval to ensure advance notice has been given. SDG&E to provide the CPUC with copies of notices sent out and as published in local newspapers.	Prior to construction in all work areas.	
		N-1c		Provide liaison for construction nuisance complaints. SDG&E shall identify and provide a public liaison person before and during	SDG&E to provide public liaison and telephone numbers.	SDG&E to provide bi- monthly letter report on the number of calls	Prior to and during construction for all work areas.	

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

SDG&E OMPPA Transmission Project D.8 NOISE AND VIBRATION

			TABLE D.8-6 MITIGATION MONITORING PROGRAM – NOISE				
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				construction to respond to concerns of neighboring receptors, including residents, about noise construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure N-1b. SDG&E shall also establish a toll free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers. Prior to public notification, procedures included in the notices shall be submitted to the CPUC for review and approval. SDG&E shall provide to the CPUC a bi-monthly letter report on the number of calls received and a summary of caller concerns and how concerns were addressed.		received and a summary of caller concerns and how concerns were addressed in order to provide evidence of how complaints were resolved.	
N-2	Vibration could cause a temporary nuisance during construction.	N1-a, N-1b, N-1c		See above for description of mitigation measure.			
N-3	Corona noise from operation of the overhead transmission line.		APM 9	A bundled configuration of the conductors shall be used on the 230 kV line and relocated 69 kV and 138 kV lines to limit the audible noise, radio interference, and television interference due to corona. Caution shall be exercised during construction to try to avoid scratching or nicking the conductor surface, which may provide points for corona to occur. In addition to the bundled configuration conductors, special hardware design shall also be used to limit corona potential.	SDG&E to implement measure as defined and incorporate in construction contracts.	SDG&E to provide the CPUC documentation showing compliance with APM 9. CPUC to verify in order to ensure that operations noise impacts are minimized.	During design for overhead transmission line.

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

D.8.6 References

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- U.S. EPA. 1974. U.S. Environmental Protection Agency. "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety." March.

D.9 PUBLIC HEALTH AND SAFETY

Sections D.9.1 and D.9.2 describe the environmental and regulatory hazardous materials setting for the OMPPA Transmission Project, respectively. Section D.9.3 includes an analysis and discussion of environmental contamination and hazardous materials impacts resulting from the OMPPA Transmission Project, while Section D.9.4 presents impact analysis for the alternatives. Sections D.9.5 and D.9.6 address concerns about electric and magnetic fields and other electric field issues. Section D.9.7 presents the mitigation monitoring program for all topics covered in this section.

D.9.1 Environmental Setting for the Proposed Project – Hazardous Materials and Wastes

This section identifies known hazardous waste contamination sites along or near the proposed Project alignment. The primary reason to define potentially hazardous sites is to protect worker health and safety and to minimize public exposure to hazardous materials during construction and waste handling. Where encountered, contaminated soil may qualify as hazardous waste, thus requiring handling and disposal according to local, State, and federal regulations. Known hazardous material sites information was collected from review of SDG&E's PEA (March 2004) and a Phase I Environmental Site Assessment prepared by Environmental Data Resources Inc. (EDR). The Phase I Site Assessment included a records review, review of historical aerial photography and site reconnaissance survey.

D.9.1.1 Regional Overview

The Proposed Project traverses land utilized for a variety of uses including: open space recreation and preserve, residential housing, recreational, commercial businesses and industrial activities. Existing and past land use activities are potential indicators of hazardous material storage and use. For example, many industrial sites, historic and current, are known to have soil or groundwater contamination by hazardous substances. Other hazardous materials sources include leaking underground storage tanks (LUST) in commercial and rural areas, surface runoff from contaminated sites, and migration of contaminated groundwater plumes.

A number of potentially contaminated soil and/or groundwater sites have been identified within or adjacent to the Proposed Project alignment. Many of the areas of concern along the route are (LUST) sites, primarily associated with gas/oil facilities, such as gasoline stations and auto repair facilities. As a result, the soils and groundwater in the vicinity of these areas potentially contain varying amounts of various petroleum hydrocarbons (e.g., gasoline and diesel) and fuel additives.

D.9.1.2 Sycamore Canyon Substation to Fanita Junction

The Sycamore Canyon Substation to Fanita junction segment of the proposed alignment traverses undeveloped open space of MCAS Miramar. The Integrated Natural Resources Management Plan for MCAS Miramar identifies seven sites where hazardous materials disposal or discharge may have resulted in contamination. The inactive Sycamore Canyon Atlas Missile Facility, which was contaminated with polychlorinated biphenyls and asbestos materials, is located in the vicinity of the Project route. However, both contaminants have been fully remediated.

D.9.1.3 Miguel Substation to South Bay Power Plant

The Miguel Substation to South Bay Power Plant segment of the proposed alignment traverses undeveloped opens pace, residential, recreational, commercial and industrial land uses. Based on the records review, there are 11 sites that are potentially contaminated in the vicinity of this segment including the South Bay Power Plant. See *Appendix 5* to this EIR for site name, location and descriptions. In addition, three areas of possible environmental concern were observed along the route, including:

- Several large, aboveground fuel storage tanks at the South Bay Power Plant;
- A storage yard with cable reels and one 55-gallon drum west of Broadway and south of Palomar Street.
- Wooden utility poles and a possible drum/container adjacent to 4th Avenue and south of Orange Avenue.

D.9.1.4 South Bay Power Plant to Sweetwater River Transition Area

The South Bay Power Plant to Sweetwater River segment of the proposed alignment traverses industrial, commercial and vacant land uses. Based on the records review, there are nine sites in addition to the South Bay Power Plant that are potentially contaminated within the vicinity of this segment. See *Appendix 5* to this EIR for site name, location and descriptions. In addition, areas of possible environmental concern were identified (USFWS 2004) within and adjacent to the eastern end of the Sweetwater Marsh including:

- Burn ash deposits
- Various contaminants

D.9.1.5 Sweetwater River Transition Area to Sicard Street Transition Area

The Sweetwater River Transition Area to Sicard Street Transition Area traverses commercial and industrial land uses. No potentially contaminated sites were identified along this project segment within SDG&E's ROW.

D.9.1.6 Sicard Street Transition Area to Old Town Substation

The Sicard Street to Old Town Substation segment of the proposed alignment primarily traverses commercial and industrial land uses associated with downtown San Diego. Based on the records review, there are 126 environmentally contaminated sites within 0.125 mile of this segment. Of these sites, 77 of them are located along the streets where excavation and installation of the cable would occur, including Harbor Drive, Sicard Street, Pacific Highway, Morena Boulevard, Riley Street, Linda Vista Road, and Mildred Street, (see *Appendix 5*). In addition, 18 areas of possible environmental concern were identified based on review of historical aerial photographs, Sanborn Fire Insurance maps and field reconnaissance, including:

- Oil depot facilities with several aboveground storage tanks along Harbor Drive between 26th Street and Sampson Street.
- An electric substation at the intersection of Harbor Drive and Sampson Street.
- An oil facility with oil/gas tanks at the intersection of Main Street and Beardsly Street.
- Gas and oil depots and/or facilities along Harbor Drive at Kettner Boulevard and Crosby Street.
- Several gas/oil facilities along Pacific Highway from Ash Street to Hawthorn Street.
- An oil storage yard and a gas/oil auto service station at the intersection of Pacific Highway and Juniper Street.
- Gas/oil facilities along Pacific Highway at the intersections of Palm, Sutherland, Estudillo, Wright, Washington, Witherby, and Rosecrans Streets.
- An aircraft manufacturing and assembly plant along Pacific Highway on both sides of Sassafras Street.
- Aboveground storage tanks near the intersection of Sicard Street and Harbor Drive.
- Aboveground storage tanks south of Harbor Drive between Switzer Street and Sigsbee Street.
- Possible aboveground storage tanks along Pacific Highway near Witherby Street and Kurtz Street.
- San Diego Consolidated Gas and Electric Company former manufactured gas plant site at the northeast corner of the intersection of 9th Street and N Street.

D.9.2 Applicable Regulations, Plans and Standards –Hazardous Materials and Wastes

Hazardous materials and wastes are identified and defined by federal and State regulations for the purpose of protecting public health and the environment. Hazardous materials have certain chemical, physical or infectious properties that cause them to be considered hazardous. Hazardous

wastes are defined in the code of Federal Regulations Title 40 Part 20 and also in the California Code of Regulations (CCR), Title 22 Div. 4.5, Chapter 11, Article 1, Section 66261.

D.9.2.1 Federal

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. 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. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for clean up when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants or contaminants. The NCP also established the National Priorities List (NPL), which is a list of contaminated sites warranting further investigation by the U.S. EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

D.9.2.2 State

The California Hazardous Waste Control Law (HWCL) is administered by the California Environmental Protection Agency (Cal/EPA) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the U.S. EPA approves the California program, both the state and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

The California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261 provides the following definition for hazardous waste:

...a waste that exhibits the characteristics may: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed or otherwise managed.

According to CCR Title 22, substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because of their flammable properties. Gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact. Examples include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal (which reacts violently with water) are examples of reactive materials.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as "mixed wastes." Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses.

Hazardous Material Worker Safety

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the work place. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

D.9.2.3 Regional and Local

San Diego County

The San Diego County Department of Environmental Health (DEH), Hazardous Materials Management Division (HMMD) is responsible for regulating hazardous materials business plans and chemical inventory, hazardous waste permitting, underground storage tanks, and risk management plans. The goal of HMMD is to protect human health and the environment by ensuring that hazardous materials, hazardous waste, medical waste, and underground storage tanks are properly managed. To accomplish this goal, the HMMD has several programs working with the regulated community and the public which include: The California Accidental Release Prevention Program; the Hazardous Incident Response Team; the Hazardous Materials Duty Desk; the Pollution Prevention Specialist; and the Underground Storage Tank Group.

The Land and Water Quality Division of DEH is responsible for administering the Site Assessment and Mitigation Program which oversees environmental investigations and remedial actions, primarily those related to underground storage tanks, to protect health and water resources within San Diego County.

D.9.3 Environmental Impacts and Mitigation Measures for the Proposed Project – Contamination and Hazardous Materials

D.9.3.1 Definition and Use of Significance Criteria

An impact would be considered significant and require additional mitigation if project construction or operation would:

- Result in soil contamination, including flammable or toxic gases, at levels exceeding federal, Stage, or local hazardous waste limits established by 40 CFR Part 261 and Title 22 CCR 66261.21, 66261.22, 66261.23, and 66261.24;
- Result in mobilization of contaminants currently existing in the soil, creating potential pathways of exposure to humans or other sensitive receptors that would result in exposure to contaminants at levels that would be expected to be harmful; or
- Result in the presence of contaminated soils or groundwater within the project area, and as a result, expose workers and/or the public to contaminated or hazardous material during transmission line construction activities, at levels in excess of those permitted by California Occupational Safety and Health Administration (Cal/OSHA) in CCR Title B and the Federal Occupational Safety and Health Administration (OSHA) in Title 29 CFR Part 1910.

D.9.3.2 Applicant Proposed Measures

Table D.9-1 presents the APMs proposed by SDG&E to reduce or eliminate impacts from hazardous material use and storage, and existing environmental contamination along the alignment.

Al	TABLE D.9-1 PPLICANT PROPOSED MEASURES – PUBLIC HEALTH AND SAFETY					
APM No.	Description					
7	Prior to construction, all SDG&E, contractor, and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the APM and to comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill preventior and response measures, erosion control, dust suppression, and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address:					
	 a. federal, state, local, and tribal laws regarding antiquities, fossils, plants, and wildlife, including collection and removal; b. the importance of these resources and the purpose and necessity of protecting them; and c. methods for protecting sensitive cultural, paleontological, and ecological resources. 					
16	Hazardous materials would not be disposed of or released onto the ground, the underlying groundwater, or surface water. Totally enclosed containment would be provided for all trash. All construction waste, inclu trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, w be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of s materials.					
19	Wildfires shall be prevented or minimized by exercising care when operating utility vehicles within the ROW and access roads and by not parking vehicles on or in close proximity to dry vegetation where hot catalytic converters can ignite a fire. In times of high fire hazard, it may be necessary for construction vehicles to carr water and shovels or fire extinguishers. Fire protective mats or shields would be used during grinding or weldin to prevent or minimize the potential for fire.					
32	A hazardous substance management, handling, storage, disposal, and emergency response plan would be prepared and implemented.					
33	Hazardous materials spill kits would be maintained on-site for small spills.					
38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDE permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation intervalence.					

D.9.3.3 230 kV Overhead Transmission Circuit

The principal environmental impacts involving hazardous waste are related to the mobilization of contaminants resulting in exposure of workers and the general public, e.g., excavation and handling of contaminated soil and groundwater. Hazardous materials in the construction area may require special handling as hazardous waste can create an exposure risk to workers and the general public during excavation and transport. Contaminated soil exceeding regulatory limits for construction backfill would require onsite treatment or transport to offsite processing facilities. Contaminated soil removed from the construction area must be transported according to State and federal regulations and be replaced by imported soil approved for backfill. Similar issues pertain to contaminated groundwater which may actually transport contamination from nearby sources to the Proposed Project alignment. Transport of any contaminated groundwater removed from the site would also need to follow federal and State regulations.

Impact HAZ-1: Potential Hazardous Substance Spills During Construction

During construction, hazardous materials such as vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored in construction staging yards. Spills of hazardous materials during construction activities could potentially cause soil or groundwater contamination. Improperly maintained equipment could leak fluids during construction operation and while parked, resulting in soil contamination. APMs 7, 16 and 32 (preparation of a hazardous materials spill prevention and response measures and SWPPP BMPs) along with APM 33 (hazardous material spill clean-up supplies) are designed to reduce this impact. In addition, water quality and hydrology APMs 6 and 38 identified in *Table D.6-2*, would help reduce this impact. In order to ensure agency oversight of these efforts and plans, mitigation measure HAZ-1a is recommended. Implementation of mitigation measure HAZ-1a along with APMs 7, 16, 32 and 38 would mitigate potential impacts due to potential hazardous substance spills during construction to less than significant levels (Class II).

Mitigation Measure for Impact HAZ-1, Potential Hazardous Substance Spills During Construction

HAZ-1a Review of training and response plan. The hazardous substance control and emergency response training proposed by APM 7, 16 and 32 shall be reviewed and approved by the CPUC and San Diego County Department of Environmental Health, Hazardous Materials Division.

Impact HAZ-2: Excavation Could Result in Mobilization of Existing Contamination

The presence of the contaminated sites within and near the alignment creates the potential for contaminated soil and/or groundwater to be encountered during construction and therefore there is

the possibility that project construction could include a risk of releasing existing hazardous substances and exposing people to potential health hazards. Implementation of Mitigation Measures HAZ-2a and HAZ-2b would mitigate this potential health hazard to less than significant (Class II).

Mitigation Measures for HAZ-2 Excavation Could Result in Mobilization of Existing Contamination

HAZ-2a A Phase II Environmental Site Assessment shall be conducted prior to construction as required by the Phase I Environmental Site Assessment prepared for the project (EDR 2004) to determine if there is any surface or subsurface contamination. The investigation shall include a review of current status from agency files of listed contaminated sites presented in the summary tables for the entire project alignment. This review shall include the concentration and limits of contamination, type of release, and media affected. The Phase II investigation shall include collection of samples for laboratory analysis and quantification of contaminant levels within the proposed excavation and surface disturbance areas of the project prior to the start of construction. The scope of the field investigation shall be developed based on the agency file review of each listed contamination site and shall be in accordance with the standard of practice for assessment of appropriate worker protection and material handling and disposal procedures. Soil sampling and laboratory testing shall be conducted at locations along the project route, transition station site, and at substations where known contaminated sites are within 0.25 mile of the alignment or are determined to pose a threat to the project based on the results of agency file review. If required by the Phase II investigation, remediation will occur in accordance with all applicable federal, state, and local regulations.

Results of the Phase II investigation shall be used to determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject area. Areas with contaminated soil and/or groundwater determined to be hazardous waste shall be removed by personnel who have been trained through the OSHA recommended 40-hour safety program (29 CFR1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and offsite transport or onsite treatment. Results of the agency file review and Phase II investigations shall be reviewed and approved by the San Diego County's Department of Environmental Health prior to construction. A copy of the County Department of Environmental Health approval letter must be provided to the CPUC prior to start of construction.

HAZ-2b During activities including the removal of hazardous materials, SDG&E shall have an experienced environmental professional with 40-hour HAZWOPER training onsite. This professional shall monitor the work site for contamination and shall ensure the

implementation of mitigation measures needed to ensure public health and safety including those of project construction workers and adjacent residences in accordance with State of California Health and Safety Regulations as managed by the San Diego Department of Environmental Health.

Impact HAZ-3: Previously Unknown Soil or Groundwater Contamination Could be Encountered During Construction

Unexpected soil and/or groundwater contamination could be encountered during grading or excavation. This could result in exposure of workers or the public to hazardous materials. This would be a potentially significant impact (Class II), mitigable through implementation of Mitigation Measure HAZ-2b and HAZ-3a and the environmental training committed to by the Applicant in APM 7.

Mitigation Measure for Impact HAZ-3, Previously Unknown Soil or Groundwater Contamination Could be Encountered During Construction

HAZ-3a Observation of soil for contamination. During trenching, grading, or excavation work for the Proposed Project, the contractors shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during construction, the contractor shall stop work until the material is properly characterized and appropriate measures are taken to protect human health and the environment. The contractor shall comply with local, State, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials. In the event contaminated groundwater is encountered, the contractor shall document the exact location of the contamination, immediately notify the CPUC monitor, and comply with all applicable regulations and permit requirements. This may include laboratory testing, treatment of contaminated groundwater, or other disposal options. A weekly report listing encounters with contaminated soils and describing actions taken shall be submitted to the CPUC.

D.9.3.4 230 kV Underground Cable

Impact HAZ-1 (hazardous substance spills during construction; see discussion under *Section D.9.3.2, 230 kV Overhead Transmission Circuit*) would be applicable to the construction of the underground segment. Implementation of APMs 6, 7, 16, 32 and 38 and mitigation measure HAZ-1a would mitigate potential impacts due to potential hazardous substance spills during construction to less than significant (Class II).

The proposed underground cable portion of the project would require excavation and installation where, as described previously in *Section D.9.1.1* above and listed in *Appendix 5*, 79 known

environmentally contaminated sites have been recorded. As such, Impact HAZ-2 (mobilization of existing contaminants and Impact HAZ-3 (previously unknown contamination could be encountered) would be applicable, but would be mitigated to less than significant levels (Class II) with the implementation of Mitigation measures HAZ-2a, HAZ-2b, and HAZ-3a.

D.9.3.5 Transition Station

Impact HAZ-1 (hazardous substance spills during construction; see discussion under *Section D.9.3.2*, 230 kV Overhead Transmission Circuit) would be applicable to the construction of the transition station. Implementation of APMs 6, 7, 16, 32 and 38 and mitigation measure HAZ-1a would mitigate potential impacts due to potential hazardous substance spills during construction to less than significant (Class II).

Impact HAZ-2 (mobilization of existing contaminants) and Impact HAZ-3 (previously unknown contamination could be encountered) are applicable to the transition station and would be mitigated to less than significant levels (Class II) with the implementation of Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3a. In addition, the following impact would apply to the transition station.

Impact HAZ-4: Release of Hazardous Materials During Operation at Transition Station or Substations

Soil or groundwater contamination could result from accidental spill or release of hazardous materials at the transition station or substations during facility operation. This could potentially result in exposure of facility workers and the public to hazardous materials. Implementation of APM 7 (Environmental Training) and APMs 32 and 33 (Spill Prevention, Control, and Countermeasures) would reduce impacts to workers and the public. Mitigation Measures HAZ-4a and HAZ-4b are recommended in addition to APMs 7, 32 and 33 to mitigate potential impacts due to potential release of hazardous materials during operation to less than significant (Class II).

Mitigation Measures for Impact HAZ-4 Release of Hazardous Materials During Operation

HAZ-4a Documentation of Compliance. SDG&E shall implement APMs 7, 32 and 33 at the transition station and at substations, and shall document compliance by (a) submitting to the CPUC for review and approval an outline of the proposed Environmental Training and Monitoring Program, (b) providing a list of names of all operations personnel who have completed the training program, and (c) providing a copy of the Spill Prevention, Control, and Countermeasures Plan as required by Title 40 CFR Section 112.7 to the CPUC for review and approval at least 60 days before the start of operation.

HAZ-4b No hazardous materials used by SDG&E for operations and maintenance of the proposed transition station or proposed substation equipment will be stored or disposed of onsite and their use or disposal will conform to applicable laws and regulations governing the use, management and disposal of hazardous materials.

D.9.3.6 Modifications to Substations

Modifications to the existing substations would require some excavation and/or grading at the facilities for the new structures and equipment. During construction activities, Impact HAZ-1 (hazardous substance spills during construction; see *Section D.9.3.2, Overhead Transmission Circuit*) would be applicable to substation modifications construction work. However, impacts would be reduced to less than significant levels with implementation of Mitigation Measure HAZ-1a (Class II). Impact HAZ-2 (mobilization of existing contaminants) and Impact HAZ-3 (previously unknown contamination could be encountered) would be applicable, but would be mitigated to less than significant levels (Class II) with the implementation of Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3a. Impact HAZ-4 (release of hazardous materials during operation; see *Section D.9.3.5, Transition Station*) would be applicable to operation of substations. However, this impact would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measures HAZ-4a and HAZ-4b.

D.9.4 Project Alternatives - Contamination and Hazardous Materials

D.9.4.1 SDG&E Design Option Alternatives (*Pacific Highway Bridge Attachment,* Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.9.1 describes the hazardous materials setting along the Project alignment. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing hazardous materials conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. The underground portion of this alternative would take place in previously graded areas associated with existing City of San Diego roadways within primarily commercial and industrial areas thereby increasing the potential to encounter

existing hazardous materials during construction. Potential impacts due to mobilization of existing hazardous materials (Impact HAZ-2) are considered significant. Implementation of Mitigation Measures HAZ-2a, HAZ-2b would mitigate this potential health hazard to less than significant impact (Class II).

Harbor Drive Bridge Attachment Design Alternative: The Harbor Drive Bridge Attachment Design Alternative is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. Because this alternative entails only the attachment of the proposed 230 kV cable to the existing Harbor Drive Bridge, less than significant impacts requiring no mitigation (Class III) to hazardous materials would occur due to implementation of this alternative.

Sicard Street Transition Cable Pole Design Alternative: The hazardous materials impacts for the Sicard Street Transition Cable Pole Design Alternative would not be significantly different from the proposed Sicard Street Transition Station. Potential hazardous substance spills during construction (Impact HAZ-1), potential mobilization of existing contamination (Impact HAZ-2 and Impact HAZ-3) through project-related excavation would occur in the same manner as described in *Section D.9.3.5* for the proposed Sicard Street Transition Station Station which were determined to be significant. Implementation of APMs 6, 7, 16, 32 and 38 and Mitigation Measures HAZ-1a, HAZ-2a, HAZ-2b and HAZ-3a would mitigate this potential health hazard to less than significant (Class II).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant to Sweetwater River overhead option primarily consists of minor modifications to existing structures, potential hazardous material impacts (HAZ-1, HAZ-2 and HAZ-3) would be less than significant, requiring no mitigation (Class III).

Comparison to the Proposed Project

Impacts due to hazardous materials resulting from the construction of SDG&E's Sicard Street Transition Cable Pole Design alternative would be substantially the same as those identified for the Proposed Project.

Project impacts due to potentially encountering existing hazardous materials (Impact HAZ-2 and Impact HAZ-3) would be slightly greater under the Pacific Highway Bridge Attachment Design Alternative due to increased trenching required. While this impact would remain as a significant impact, it would be mitigated to less than significant (Class II) by implementing mitigation measures as provided for the Proposed Project (see *Section D.9.3.2 and D.9.3.3*).

Project impacts due to encountering existing hazardous materials (Impact HAZ-2 and Impact HAZ-3) would be reduced to less than significant (Class III) under the Harbor Drive Bridge Attachment Design Alternative due to elimination of trenching and boring proposed for this area by the OMPPA Transmission Project.

Project impacts due to potentially encountering hazardous materials (Impact HAZ-2) and (Impact HAZ-3) would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative from (Class II) potentially significant requiring mitigation to Class III, requiring no mitigation, because this alternative would not require trenching and boring along this project segment.

D.9.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.9.1.3 describes the hazardous materials setting along the Miguel Substation to South Bay Power Plant project alignment. Because this alternative would occur in the same area as the Proposed Project, the existing hazardous materials conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Impact HAZ-1 (hazardous substance spills during construction) as discussed under *Section D.9.3.2, 230 kV Overhead Transmission Circuit* would be applicable to the construction of the Transmission System Alternative. Implementation of APMs 6, 7, 16, 32 and 38 and Mitigation Measure HAZ-1a would mitigate potential impacts due to potential hazardous substance spills during construction to less than significant (Class II).

Impact HAZ-2 (mobilization of existing contaminants) and Impact HAZ-3 (previously unknown contamination could be encountered), as discussed under *Section D.9.3.2, 230 kV Overhead Transmission Circuit*, are applicable to the Transmission System Alternative and would be mitigated to less than significant levels (Class II) with the implementation of Mitigation Measures HAZ-2a, HAZ-2b and HAZ-3a.

Comparison to the Proposed Project

The Transmission System Alternative would be located within the same ROW between the Miguel Substation and South Bay Power Plant as the Proposed Project. The Miguel Substation to South Bay Power Plant segment traverses undeveloped open space, residential, recreational, commercial and industrial land uses. Based on the records review, there are 11 sites that are potentially contaminated in the vicinity of this segment including the South Bay Power Plant. Impacts due to contamination and hazardous materials resulting from construction and operation of the Transmission System Alternative would be substantially the same as those identified for the Proposed Project which were determined to be less than significant after mitigation (Class II).

D.9.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the no Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.9.3* for new transmission, but could vary depending on length of transmission line and location pursued. However, the environmental impacts of new generation can be significant especially with respect to hazardous materials generation. Depending on the type and location of new generation, hazardous materials impacts associated with the proposed transmission line would likely be substantially less than those associated with power generation.

D.9.5 Electric and Magnetic Fields and Other Field-Related Concerns

Recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMFs) from power lines, this Section provides information regarding EMF associated with electric utility facilities. Potential health effects from exposure to electric fields from power lines (created by the existence of electric charges, such as electrons of the line or ions in the volume of space or medium that surrounds the line) are typically not of concern because any adverse effects occur for electric fields much stronger than those found in areas accessible to the public. Furthermore, electric fields are effectively shielded by materials such as trees, walls, etc. Unlike electric fields, magnetic fields are not easily shielded by objects or materials. Both electric and magnetic field strength attenuate rapidly with distance from the source. However, this Section does not consider electric or magnetic fields in the context of CEQA and determination of environmental impact. This is because (a) there is no agreement among scientists that EMF does create a potential health risk, and (b) there are no defined or adopted CEQA standards for defining health risk for EMF. As a result, EMF information is presented for the benefit of the public and decision makers.

Additional concerns regarding the Proposed Project related to power line fields include: corona and audible noise; radio, television, electronic equipment interference; induced currents and shock hazards; and effects on cardiac pacemakers. These field issues are addressed in *Sections D.9.5.2, Other Field Related Public Concerns* and *D.9.6, Environmental Impact and Mitigation Measures – Non-EMF Electric Power Field Issues*.

Defining EMF

EMFs are separate phenomena and occur both naturally and as a result of human activity across a broad electrical spectrum. Naturally-occurring EMF are caused by the weather and the earth's geomagnetic field. Human activity also produces EMFs thorough technological application of the electromagnetic spectrum for uses such as communications, appliances, and the generation, transmission, and local distribution of electricity.

The EMF from power lines change their direction over time. The rate of this change in direction is referred to as a frequency and represents the number of cycles of field direction change that are completed each second. For power lines in the United States, the frequency is 60 cycles per second. Using hertz (Hz), the scientific unit for frequency in cycles per second, the term "60 Hz power" often appears. In Europe and many other countries, the frequency of electric power is 50 Hz. In contrast, AM radio operates at frequencies near one million hertz, FM radio near one-hundred million hertz, TV over a range from approximately 50 million to 800 million hertz, and cellular telephones in a range surrounding 850 MHz and 1900 MHz. The information presented in this document is limited to the EMF from power lines at frequencies of 50 or 60 Hz.

Electric power flows across transmission systems from generating sources to serve electrical loads within the community. The power flowing over a transmission line is determined by the transmission line voltage and the current. The higher the voltage level of the transmission line, the lower the amount of current needed to deliver the same amount of power. For example, a 115kv transmission line with 200 amps of current will transmit approximately 40,000 kilowatts (kW), whereas a 230 kV transmission line requires only 100 amps of current to deliver the same 40,000 kW.

Electric Fields

Electric fields from power lines are created whenever the lines are energized, with the strength of the field dependent directly on the voltage of the line creating it. Electric field strength is typically described in units of kilovolt per meter (kV/m). Electric field strength attenuates rapidly as the distance from the source increases. Electric fields are shielded by most objects or materials such as trees or houses.

At reasonably close distances, electric fields of sufficient strength in the vicinity of power lines can cause electric discharge phenomena ("microshocks") that are familiar from experiences with static electricity on a dry day and with clothing just removed from a clothes dryer. Somewhat stronger electric discharges can occur when touching long metal fences or large vehicles near a high voltage transmission line.

In contrast with electric discharges, the hazard of electric shock and burns, although uncommon, is an acknowledged potential public health impact of electric power transmission lines. Electric shock to the public from transmission lines generally is the result of an accident with energized wires involving unintentional contact or close approach.

Magnetic Fields

Magnetic fields from power lines are created whenever current flows through power lines at any voltage. The strength of the field is directly dependent on the current in the line. Magnetic field strength is typically measured in milligauss (mG). Similar to electric fields, magnetic field strength attenuates rapidly with distance from the source. Unlike electric fields, magnetic fields are not easily shielded by objects or materials.

The nature of electric and magnetic fields can be illustrated by considering a household appliance. When the appliance is energized by being plugged into an outlet but not turned on so no current would be flowing through it, an electric field will be generated around the cord and appliance, but no magnetic field will be present. If the appliance is switched on, the electric field will still be present and a magnetic field will be created. The electric field strength is directly related to the magnitude of the voltage from the outlet and the magnetic field strength is directly related to the magnitude of the current flowing in the cord and appliance.

EMF exists in the environment both naturally and as a result of human activities. The geomagnetic field of the earth, which does not rapidly change in direction and therefore has a frequency of zero, ranges from 500 to 700 mG (Carstensen, 1987). In areas not immediately adjacent to transmission lines, 60-Hz EMF exists as a result of other electric power uses such as neighborhood distribution lines, household wiring, and electrical equipment and appliances. Public exposure to these fields is widespread and encompasses a very broad range of field intensities and durations. Research on ambient magnetic fields in homes and buildings in several western states found average magnetic field levels within rooms to be approximately 1 mG, while in the immediate area of appliances, the measured values ranged from 9 to 20 mG (Severson et al., 1988, Silva et al, 1988). *Tables D.9-2* and *D.9-3* indicate typical sources and levels of EMF exposure the general public experiences from appliances.

TABLE D.9-2TYPICAL ELECTRIC FIELD VALUES FOR APPLIANCES, AT 12 INCHES

Appliance	Electric Field Strength (kV/m)
Electric blanket	0.25*
Broiler	0.13
Stereo	0.09
Refrigerator	0.06
Iron	0.06
Hand mixer	0.05
Phonograph	0.04
Coffee pot	0.03

* 1 to 10 kV/m next to blanket wires (Enertech, 1985).

TABLE D.9-3 MAGNETIC FIELD FROM HOUSEHOLD APPLIANCES				
	Magnetic Field (mG)			
Appliance	12" Distant	Maximum		
Electric range	3 to 30	100 to 1,200		
Electric oven	2 to 25	10 to 50		
Garbage disposal	bage disposal 10 to 20			
Refrigerator	0.3 to 3	4 to 15		
Clothes washer	2 to 30	10 to 400		
Clothes dryer	1 to 3	3 to 80		
Coffee maker	0.8 to 1	15 to 250		
Toaster	0.6 to 8	70 to 150		
Crock pot	0.8 to 1	15 to 80		
Iron	1 to 3	90 to 300		
Can opener	35 to 250	10,000 to 20,000		
Mixer	6 to 100	500 to 7,000		
Blender, popper, processor	6 to 20	250 to 1,050		
Vacuum cleaner	20 to 200	2,000 to 8,000		
Portable heater	1 to 40	100 to 1,100		
Fans / blowers	0.4 to 40	20 to 300		
Hair dryer	1 to 70	60 to 20,000		
Electric shaver	1 to 100	150 to 15,000		

	Magnetic Field (mG)		
ppliance	12" Distant	Maximum	
olor TV	9 to 20	150 to 500	
uorescent fixture	2 to 40	140 to 2,000	
luorescent desk lamp	6 to 20	400 to 3,500	
ircular saws	10 to 250	2,000 to 10,000	
ectric drill	25 to 35	4,000 to 8,000	

D.9.5.1 EMF in the Proposed Project Area

The Proposed Project consists of the installation of a new 230 kV transmission line with overhead and underground segments, a new transition station and two new transition cable poles where the line would change between overhead to underground, and modifications to three existing substations. The proposed transmission line would pass through both developed and undeveloped lands. The developed areas include significant residential and commercial development while the undeveloped areas include open space or park lands (see *Section D.7, Land Use* for more details).

Public exposure to EMFs in developed areas is widespread and encompasses a very broad range of field intensities and durations. In developed areas, EMFs are prevalent from the use of electrical appliances, electrical equipment, and existing electric power lines. In general, distribution lines exist throughout developed portions of the community and represent the predominant source of public exposure to power line EMF. Transmission lines are much less prevalent in most developed areas and therefore they generally represent a much lower contribution to overall public exposure to power line EMF. In undeveloped and natural areas, only low level naturally occurring EMFs exist and measurable EMFs are not present except in the vicinity of existing power line corridors.

Overhead Transmission Line Segment

EMFs are emitted from existing transmission lines in the ROW. The project ROW varies in width from 150 to 250 feet and accommodates a varying number of transmission lines at 230, 138, and 69 kV. The route also has 12kV distribution lines within the ROW. EMFs also occur at the existing Sycamore Canyon, Miguel and Old Town Substations.

Existing electric field strengths near the project are typical of regions near high voltage transmission lines. Electric fields decrease in strength with distance from the ROW, and are determined by line voltage, line height, the arrangement of conductor phases on the pole or tower, the height above ground of the wires, and the placement of any parallel lines. Dense foliage or other obstructions also can provide shielding. Because line voltage is held nearly constant, transmission line electric fields change little over the day. However, field strengths decrease rapidly with perpendicular distance from the line. For typical 230 kV lines under near-worst case conditions, electric field strength decreases from as much as approximately 2.0 kV/m adjacent to a pole or tower to 1.5 kV/m 50 feet from the line. At 100, 200 and 300 feet, the fields fall to 0.3, 0.05, and 0.01 kV/m, respectively (Lee et al., 1993, p. 14). The electric field strength of 0.01 kV/m (equivalent to 10 V/m) at 300 feet is similar to residential fields, which average about 10 V/m (Lee et al., 1993, p. 50).

Magnetic field strengths are determined mainly by line current, line height, and distance. For typical 230 kV lines of a Pacific Northwest power system, Lee et al. (1993) reported that annual average magnetic field strength decreases from as much as approximately 60 mG near a pole or tower to 20 mG 50 feet from the center of the line. At 100, 200 and 300 feet, the average fields fall to 7.0, 2.0 and 1.0 mG, respectively (Lee et al., 1993, p. 19). The average magnetic field strength at 300 feet is similar to residential fields, which average about 0.9 mG (Zaffanella, 1993). Because of the changes in currents throughout the year, peak magnetic fields of the system's 230 kV transmission lines were approximately twice the annual averages (Lee et al., 1993). These peaks occurred less than one percent of the time (less than 88 hours in a year).

Underground Transmission Line Segment/Transition Station

The ten-mile underground portion of the transmission line would be installed in duct banks within SDG&E's ROW in commercial and vacant areas and within paved city streets within primarily commercial areas. City streets can be expected to have magnetic fields in areas directly above existing underground electric distribution lines or in the vicinity of existing overhead distribution lines.

Existing Substations

The environment around existing substations includes EMFs with magnetic fields that are predominated by the fields from the transmission and distribution lines that enter or exit the substations.

D.9.5.2 Other Field Related Public Concerns

Other public concerns related to electric power facility projects, are both safety and nuisance issues, and include: radio/television/electronic equipment interference; induced currents and shock hazards; and potential effects on cardiac pacemakers. Each of these issues is described below.

Radio/Television/Electronic Equipment Interference

Although corona can generate high frequency energy that may interfere with broadcast signals or electronic equipment, this is generally not a problem for transmission lines. The Institute of Electrical and Electronic Engineers (IEEE) has published a design guide (Radio Noise Subcommittee 1971) that is used to limit conductor surface gradients so as to avoid electronic interference.

Gap discharges or arcs can also be a source of high frequency energy. Gap discharges occur when an arc forms across a gap in loose or worn line hardware. It is estimated that over 90 percent of interference problems for electric transmission lines are due to gap discharges. Line hardware is designed to be problem-free, but wind motion, corrosion, and other factors can create a gap discharge condition. When identified, gap discharges can be located and remediated by utilities.

Electric fields from power lines do not typically pose interference problems for electronic equipment in businesses since the equipment is shielded by building and walls. However, magnetic fields can penetrate buildings and walls thereby interacting with electronic equipment. Depending upon the sensitivity of equipment, the magnetic fields can interfere with equipment operation. Review of this phenomenon in regard to the sensitivity of electrical equipment identifies a number of thresholds for magnetic field interference. Interference with typical computer monitors can be detected at magnetic field levels of 10 mG and above, while large screen or high-resolution monitors can be susceptible to interference at levels as low as 5 mG. Other specialized equipment, such as medical equipment or testing equipment can be sensitive at levels below 5 mG. Equipment that may be susceptible to very low magnetic field strengths is typically installed in specialized and controlled environments, since even building wiring, lights, and other equipment can generate magnetic fields of 5 mG or higher.

The most common electronic equipment that can be susceptible to magnetic field interference is probably computer monitors. Magnetic field interference results in disturbances to the image displayed on the monitor, often described as screen distortion, "jitter," or other visual defects. In most cases it is annoying, and its worst, it can prevent use of the monitor. This type of interference is a recognized problem in the video monitor industry. As a result, there are manufacturers who specialize in monitor interference solutions and shielding equipment. Possible solutions to this problem include: relocation of the monitor, use of magnetic shield enclosures, software programs, and replacement of cathode ray tube monitors with liquid crystal displays that are not susceptible to magnetic field interference.

Induced Currents and Shock Hazards

Power line fields can induce voltages and currents on conductive objects, such as metal roofs or buildings, fences, and vehicles. When a person or animal comes in contact with a conductive object

a perceptible current or small secondary shock may occur. Secondary shocks cause no physiological harm; however, they may present a nuisance.

Wind, Earthquake, and Fire Hazards

Transmission line structures used to support overhead transmission lines must meet the requirements of the California Public Utilities Commission, General Order No. 95, Rules for Overhead Electric Line Construction. This design code and the National Electrical Safety Code include loading requirements related to wind conditions. Transmission support structures are designed to withstand different combinations of loading conditions including extreme winds. These design requirements include use of safety factors that consider the type of loading as well as the type of material used, e.g., wood, steel or concrete. Failures of transmission line support structures are extremely rare and are typically the result of anomalous loading conditions such as tornadoes or ice storms.

Overhead transmission lines consist of a system of support structures and interconnecting wire that is inherently flexible. Industry experience has demonstrated that under earthquake conditions structure and member vibrations generally do not occur or cause design problems. Overhead transmission lines are designed for dynamic loading under variable wind conditions that generally exceed earthquake loads. Underground transmission lines are susceptible to ground motion and displacements that may occur under earthquake loading. Earthquake conditions could result in damage or faults to underground transmission lines. The proposed underground transmission line segment uses solid dielectric cable, which does not present the environmental or fire hazards that may be associated with oil-filled cable types.

Electrical arcing from power lines can represent a fire hazard. This phenomenon is more prevalent for lower voltage distribution lines since these lines are typically on shorter structures and in much greater proximity to trees and vegetation. Fire hazards from high voltage transmission lines are greatly reduced through the use of taller structures and wider ROWs. Further, transmission line ROWs are cleared of trees to control this hazard. Fire hazards due to a fallen conductor from an overhead line or ruptured underground cable are minimal due to system protection features. Both overhead and underground high voltage transmission lines include system protection designed to safeguard the public and line equipment. These protection systems consist of transmission line relays and line breakers that are designed to rapidly detect faults and cut-off power to avoid shock and fire hazards. This equipment is typically set to operation in 2 to 3 cycles, representing a time interval range from 2/60 of a second to 3/60 of a second.

Cardiac Pacemakers

An area of concern related to electric fields from transmission lines has been the possibility of interference with cardiac pacemakers. There are two general types of pacemakers: asynchronous and synchronous. The asynchronous pacemaker pulses at a predetermined rate. It is generally

immune to interference because it has no sensing circuitry and is not exceptionally complex. The synchronous pacemaker, however, pulses only when its sensing circuitry determines that pacing is necessary. Interference from transmission line electric field may cause a spurious signal on the pacemaker's sensing circuitry. However, when these pacemakers detect a spurious signal, such as a 60 Hz signal, they are programmed to revert to an asynchronous or fixed pacing mode of operation, returning to synchronous operation within a specified time after the signal is no longer detected. Cardiovascular specialists do not consider prolonged asynchronous pacing a problem, since some pacemakers are designed to operate that way. Periods of operation in this mode are commonly induced by cardiologists to check pacemaker performance. So, while transmission line electric fields may interfere with the normal operation of some of the older model pacemakers, the result of the interference is generally not harmful, and is of short duration (EPRI, 1985 and 1979).

D.9.5.3 Scientific Background and Regulations Applicable to EMF

EMF Research

For more than 35 years, questions have been asked about potential environmental effects of EMF from power lines and research has been conducted to provide a basis for response. Earlier studies focused primarily on interactions with the electric fields from power lines. In the late 1970s, the subject of magnetic field interactions began to receive additional public attention and research levels increased. Despite substantial research over the past 25 years investigating both electric and magnetic fields, much of the body of national and international research regarding EMF and public health risks remains contradictory or inconclusive.

Scientists have found through laboratory experiments that EMF can produce a number of biological effects (Carstensen, 1987). These range from slowed heart rates to changes in the rate at which the body produces various biological chemicals. Some of these effects are apparently related to the electric field, while others are thought to be due to the magnetic field. These effects often are only detectable at field strengths far in excess of those to which the public is exposed from power lines or household wiring and appliances. Although it has been found that EMF causes biological effects, there is no scientific basis to conclude that any of the biological effects observed in laboratory studies have negative implications for public health at the field levels associated with power lines.

Research related to EMF can be grouped into three general categories: cellular level studies, animal and human experiments, and epidemiological studies. These studies have provided mixed results; some studies show an apparent relationship between magnetic fields and health effects, while other similar studies do not.

Since 1979, public interest and concern specifically regarding magnetic fields from power lines has increased. This increase is attributable to publication of the results of an epidemiological study (Wertheimer and Leeper, 1979) that observed an association between the wiring configuration of

distribution power lines outside of homes in Denver and the incidence of childhood cancer. Following publication of the Wertheimer and Leeper study, more than 50 major epidemiological studies regarding EMF have been conducted, including at least 16 focused on childhood leukemia.

Methods to Reduce EMF

EMF levels from transmission lines can be reduced in three primary ways: shielding, field cancellation, and increasing the distance from the source. Since electric fields can be blocked by most materials, shielding is effective for electric fields. However, special metals are needed for effective magnetic field shielding with the result that magnetic field shielding is not common and, when used, is applied to relatively small areas.

Shielding of electric fields can be actively accomplished by placing trees or other physical barriers along the transmission line ROW. The walls and roofs of existing structures the public may use or occupy along the line can provide significant electric field shielding.

Magnetic fields can be reduced either by cancellation or by increasing distance from the source. Cancellation is achieved in two ways. A transmission line consists of three "phases", each of which is carried on one of three separate wires (conductors) such as those seen on a transmission tower. The configuration of these three phase conductors can reduce magnetic fields. First, when a configuration places the three phase conductors closer together, mutual cancellation of the fields from each wire is enhanced and would be nearly total if ideal conditions for compaction and equality of currents could be achieved. This technique has practical limitations because of the potential for short circuits if the wires are placed too close together. For underground lines, insulation of the three phases allows them to be placed much closer together than in overhead lines and thereby achieve a higher degree of cancellation. There are also worker safety issues to consider if spacing of overhead conductors is reduced. A second cancellation technique may be available if there are two or more nearby lines (six or more phase wires), such as in the Proposed Project. By arranging placement of particular phase wires from the different lines, the design engineer can achieve magnetic field cancellation for the region of interest.

The distance between the source of fields and the public can be increased either by placing the wires higher above ground, burying underground cables more deeply, or by increasing the width of the ROW. For transmission lines, these methods can prove effective in reducing fields because field strength drops rapidly with distance.

Scientific Panel Reviews

Numerous panels of expert scientists have convened to review the data relevant to the question of whether exposure to power-frequency EMF is associated with adverse health effects. The purpose of the reviews was to advise governmental agencies or professional standard-setting groups. The panels

first evaluated the available studies individually, not only to determine what specific information they can offer, but also to evaluate their experimental design, methods of data collection, analysis, and suitability of the authors' conclusions to the nature and quality of the data presented. Subsequently, the individual studies, with their previously identified strengths and weaknesses, were evaluated collectively in an effort to identify whether a consistent pattern or trend in the data exists supporting a determination of possible or probable hazards to human health resulting from exposure to these fields.

Reviews and reports include those prepared by California (California Department of Health Services [Neutra et al., 2002]) and several states. The most recent and complete U.S. federal government report was prepared by the U.S. National Institute of Environmental Health Sciences (NIEHS, 1998; 1999). The World Health Organization (WHO, 1984; 1987; 2001) and its affiliated International Agency for Cancer Research (IARC, 2002) also have sponsored in-depth reviews. Ministries and agencies of many countries also have contributed reports based on scientific expertise. Standardssetting organizations such as the International Non Ionizing Radiation Committee (ICNIRP, 1998), Institute of Electrical and Electronic Engineers (IEEE) International Committee on Electromagnetic Safety (ICES) (ICES/IEEE C95.6, 2002), American Conference of Governmental and Industrial Hygienists (1991), and National Radiological Protection Board of the United Kingdom (2004) also have evaluated the literature in order to specify protective levels for workers and the general public.

All of these panels have found that the body of data, as large as it is, does not establish the conclusion that exposure to EMF of the magnitude expected during the operation of electric power transmission lines causes cancer or otherwise constitutes a health hazard.

In May 1999, the National Institute of Environmental Health Sciences (NIEHS) submitted to Congress its report titled, Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields, containing mixed conclusions regarding EMF and health effects. The conclusions of this report stated, "using criteria developed by the International Agency for Research on Cancer, none of the Working Group considered the evidence strong enough to label ELF-EMF exposure as a known human carcinogen or probable human carcinogen. However, a majority of the members of this Working Group concluded that exposure to powerline frequency ELF-EMF is a possible carcinogen." Congress has not taken any action following issuance of this report and further research undertaken after this Working Group report has been unable to obtain conclusive evidence that EMF exposure causes adverse health effects.

In June 2001, a scientific working group of IARC (an agency of WHO) reviewed studies related to the carcinogenicity of EMF. Using standard IARC classification, magnetic fields were classified as "possibly carcinogenic to humans" based on epidemiological studies. "Possibly carcinogenic to humans" is a classification used to denote an agent for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence for carcinogenicity in experimental

animals. Other agents identified as "possibly carcinogenic to humans" include gasoline exhaust, styrene, welding fumes, and coffee (WHO, 2001).

On behalf of the CPUC, the California Department of Health Services (DHS) completed a comprehensive review of existing studies related to EMF from power lines and potential health risks (Neutra et al., 2002). This risk evaluation, which took place from 2000 to 2002, was undertaken by three DHS staff scientists, each of whom is identified as an epidemiologist. The conclusions contained in the executive summary are provided below (with emphases as in the original):

- "To one degree or another, all three of the DHS scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's Disease, and miscarriage.
- "They strongly believe that EMFs do <u>not</u> increase the risk of birth defects, or low birth weight.
- "They strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure.
- "To one degree or another, they are inclined to believe that EMFs do <u>not</u> cause an increased risk of breast cancer, heart disease, Alzheimer's Disease, depression, or symptoms attributed by some to sensitivity to EMFs. However, all three scientists had judgments that were "close to the dividing line between believing and not believing" that EMFs cause some degree of increased risk of suicide.
- "For adult leukemia, two of the scientists are "close to the dividing line between believing or not believing" and one was "prone to believe" that EMFs cause some degree of increased risk."

The report indicates that the DHS scientists are more inclined to believe that EMF exposure increased the risk of the above health problems than the majority of the members of scientific committees that have previously convened to evaluate the scientific literature. With regard to why the DHS review's conclusions differ from those of other recent reviews, the report states:

The three DHS scientists thought there were reasons why animal and test tube experiments might have failed to pick up a mechanism or a health problem; hence, the absence of much support from such animal and test tube studies did not reduce their confidence much or lead them to strongly distrust epidemiological evidence from statistical studies in human populations. They therefore had more faith in the quality of the epidemiological studies in human populations and hence gave more credence to them.

While the results of the DHS report indicate these scientists believe that EMF can cause some degree of increased risk for certain health problems, the report did not quantify the degree or risk.

In addition to the uncertainty regarding the level of health risk posed by EMF, individual studies and scientific panels have not been able to determine or reach consensus regarding what level of magnetic field exposure might constitute a health risk. In some early epidemiological studies, increased health risks were discussed for daily time-weighted average field levels greater than 2 mG. The IARC scientific working group indicated that studies with average magnetic field levels of 3 to 4 mG played a pivotal role in their classification of EMF as a possible carcinogen.

Policies, Standards, and Regulations

A number of countries, states, and local governments have adopted or considered regulations or policies related to EMF exposure. The reasons for these actions have been varied. In general, the actions can be attributed to addressing public reaction to and perception of EMF health risks as opposed to responding to the findings of any specific scientific research. Following is a brief summary of regulatory activity regarding EMF.

International Guidelines

The International Commission on Non-Ionizing Radiation Protection, in cooperation with the World Health Organization, has published recommended guidelines (ICNIRP, 1998) for EMF exposures. For the general public, the limits are 4.2 kV/m for electric fields, and 830 mG for magnetic fields. Neither of these organizations has any governmental authority nor recognized jurisdiction to enforce these guidelines. However, because they were developed by broadly based groups of scientists, these guidelines are considered by utilities and regulators when reviewing EMF levels from electric power lines.

National Guidelines

Although the USEPA, USNIEHS, USDOE and other federal agencies have conducted investigations into EMF-related to power lines and health risks, no national standards have been established. The number of studies sponsored by federal and state agencies and by privately funded EPRI (formerly Electric Power Research Institute), and other funding agencies has decreased dramatically in the past few years. Bills addressing EMF have been introduced in Congress, which previously provided funding for a multi-year research program (RAPID) that concluded in 1999. However, no bill has been enacted that would regulate EMF levels.

The 1999 NIEHS report to Congress concluded in an even-handed manner that EMF exposure "cannot be recognized at this time as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard," but that the evidence supporting EMF exposure as a health hazard was "insufficient to warrant aggressive regulatory actions." The report suggested passive measures to educate the public and regulators on means aimed at reducing exposures. NIEHS also suggested that

"the power industry continue its practice of siting lines to reduce exposures and to explore ways to reduce the creation of magnetic fields around...lines...."

State Guidelines

Several states have adopted limits of electric field strength within or adjacent to a transmission line right of way. Florida and New York are the only states that currently limit the intensity of magnetic fields from transmission lines. These regulations include limits within the right of way as well as at the edge of the right of way and cover a broad range of values. *Table D.9-4* lists the states regulating EMF and their respective limits. The magnetic field limits were based on an objective of preventing field levels from increasing beyond levels currently experienced by the public and are not based upon any link between scientific data and health risks (Morgan, 1991).

TARLE D 9-4

	EMF REGULATED LIMITS (By State)									
State	Electric Field (kV/m)	Magnetic Field (mG)	Location	Application						
500 kV Lines	10		In right of way	Single Circuits						
Florida (codified)	2	200	Edge of right of way	Single Circuit						
	2	250	Edge of right of way	Double Circuit						
230 kV Lines or less	8		In right of way							
Florida (codified)	2	150	Edge of right of way	230 kV Lines or less						
Minnesota	8		In right of way	> 200 kV						
Montana (codified)	1		Edge of right of way	> 69 kV						
	7		In right of way	Road crossings						
New Jersey	3	Under consideration	Edge of right of way	Guideline for complaints						
New York	1.6	200	Edge of right of way	> 125 kV, > 1 mile						
	7		In right of way	Public roads						
	11		In right of way	Public roads						
	11.8		In right of way	Other terrain						
North Dakota	9		In right of way	Informal						
Oregon (codified)	9		In right of way	230 kV, 10 miles						

Source: Public Utilities Commission of Texas.

Elsewhere in the United States, several agencies and municipalities have taken action regarding EMF policies. These actions have been varied and include requirements that the fields be considered in the siting of new facilities. The manner in which EMF is considered has taken several forms. In a few instances, a concept referred to as "prudent avoidance" has been adopted. Prudent avoidance, a concept proposed by Dr. Granger Morgan of Carnegie-Mellon University, is defined as "…limiting exposures which can be avoided with small investments of money and effort" (Morgan, 1991). Some

municipalities or regulating agencies have proposed limitations on field strength, requirements for siting of lines away from residences and schools, and, in some instances, moratoria on the construction of new transmission lines. The origin of these individual actions has been varied, with some initiated by regulators at the time of new transmission line proposals within their community, and some by public grassroots efforts.

California Public Utilities Guidelines

In 1991, the CPUC initiated an investigation into electric and magnetic fields associated with electric power facilities. This investigation explored the approach to potential mitigation measures for reducing public health impacts and possible development of policies, procedures or regulations. Following input from interested parties, the CPUC implemented a decision (D.93-11-013) that requires that utilities use "low cost or no cost" mitigation measures for facilities requiring certification under General Order 131-D¹. The decision directed the utilities to use a 4 percent benchmark on the low cost mitigation. This decision also implemented a number of EMF measurement, research, and education programs, and provided the direction that led to the preparation of the DHS study described above. The CPUC did not adopt any specific numerical limits or regulation on EMF levels related to electric power facilities.

In Decision D.93-11-013, the CPUC addressed mitigation of EMF of utility facilities and implemented the following recommendations:

- No cost and low cost steps to reduce EMF levels
- Workshops to develop EMF design guidelines
- Uniform residential and workplace programs
- Stakeholder and public involvement
- A four-year education program
- A four-year non-experimental and administrative research program
- An authorization of federal experimental research conducted under the National Energy Policy Act of 1992.

The no-cost/low-cost mitigation requirements were to be applied to new and reconstructed facilities and are applicable to the OMPPA Transmission Project.

In August 2004 the CPUC announced an Order to Investigate Rulemaking (CPUC, 2004) for the purpose of determining, "if there are improvements that should be made to the Commission's existing rules and regulations concerning electromagnetic fields (EMF)...." The CPUC indicated that its motivation for reviewing EMF policy is increased public interest sparked by recent research

¹ General Order 131-D is entitled "Rules Relating to the Planning and Construction of Electric Generation, Transmission/Power/Distribution Line Facilities and Substations Located in California."

findings found in the 2002 report from the California DHS (Neutra et al., 2002) and the need to review interim policies that are more than 10 years old.

D.9.5.4 Consideration of Electric and Magnetic Fields (EMFs) – Proposed Project

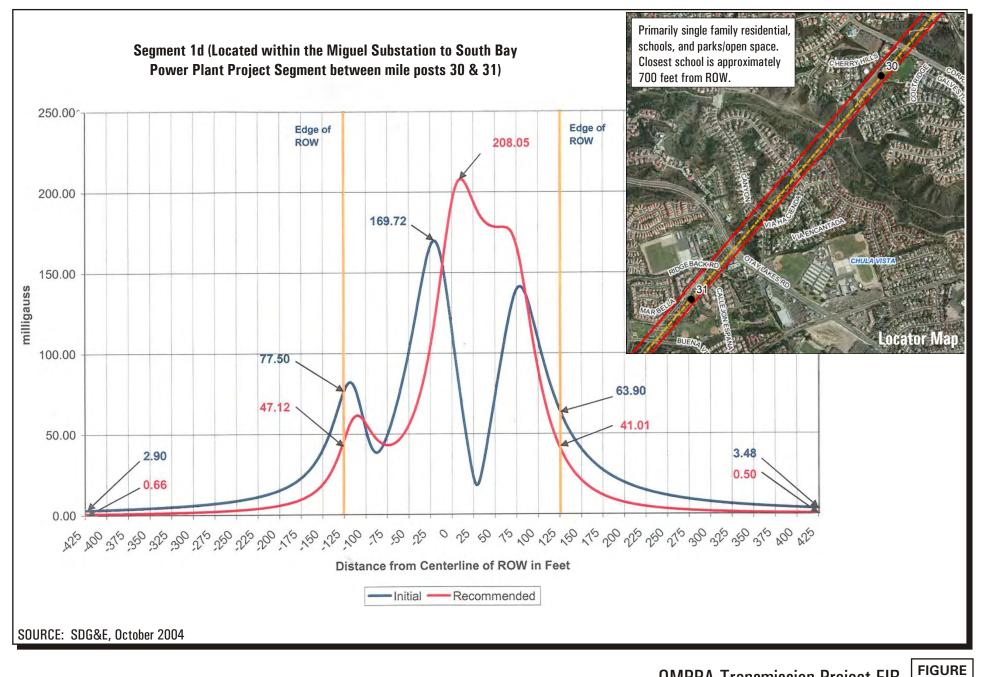
As discussed in *Section D.9.5.3*, there remains a lack of consensus in the scientific community concerning public health impacts from EMF exposures at the levels expected from electric power facilities. Further, there are no federal or State standards limiting human exposure to EMFs from transmission lines or substation facilities in California. For those reasons, EMF is not considered in this EIR as a CEQA issue and no impact significance is presented. The following information is presented to allow understanding of the issue by the public and decisionmakers.

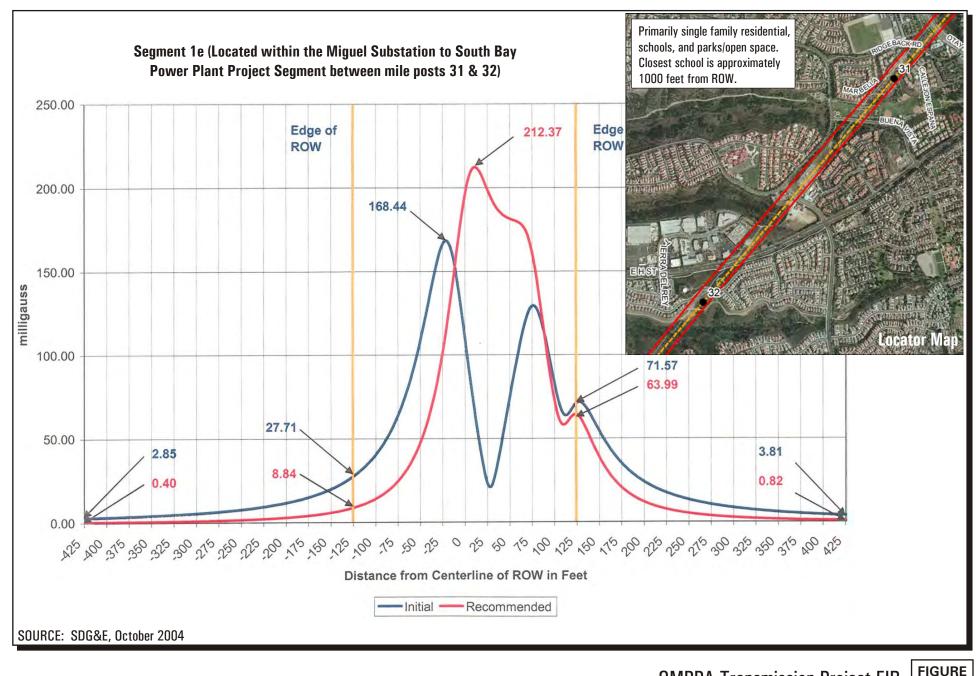
SDG&E proposes to design and construct the Proposed OMPPA Transmission Project so that the project magnetic fields are reduced to practical minimums consistent with CPUC General Order 131-D (CPUC, 1995) and the Commission's guidance associated with magnetic field reduction low cost or no cost guidelines set out in Decision 93-11-013. Pursuant to CPUC requirements, SDG&E applied its EMF guidelines (SDG&E 1994) to develop a Magnetic Field Management Plan for the OMPPA Transmission Project that evaluated magnetic fields generated by all transmission and distribution lines within the ROW for a base case design and analyzed magnetic field reductions that would result from various rearrangements of line and conductor locations and conductor phasing. SDG&E's Preliminary Magnetic Field Management Plan for the Proposed Project is provided in Appendix 6 to this EIR.

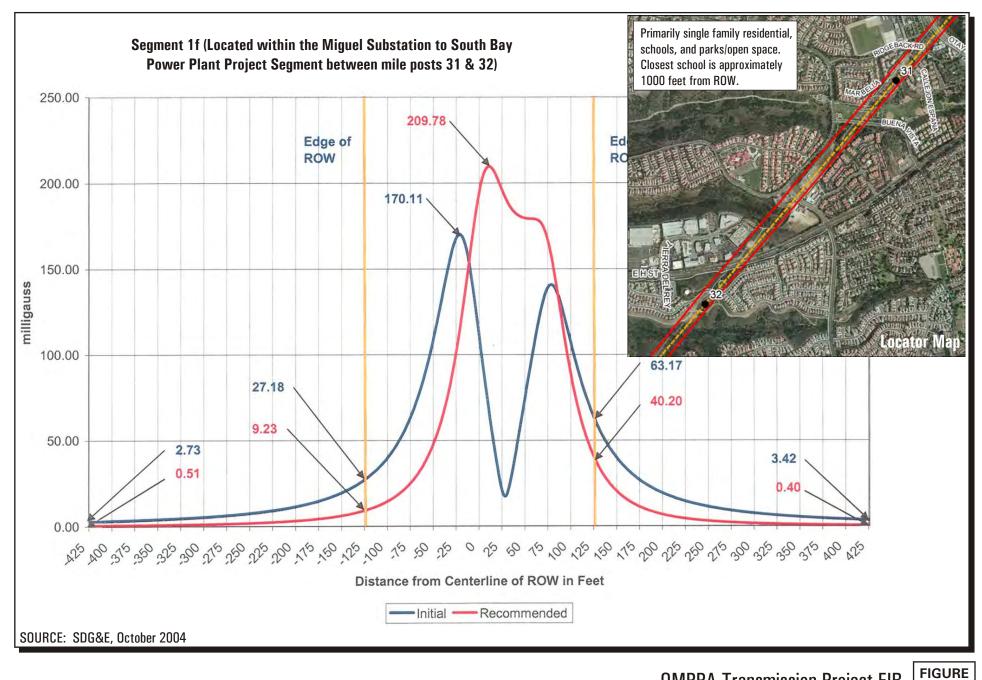
Overhead Segment

EMF levels in the Project area would not change during construction of the Proposed Project, since the lines would not be energized during construction. When the transmission lines are energized, there would be some permanent increase in the level of EMFs in the existing environment. For both the overhead and underground portions of the transmission line, these effects are anticipated to be localized.

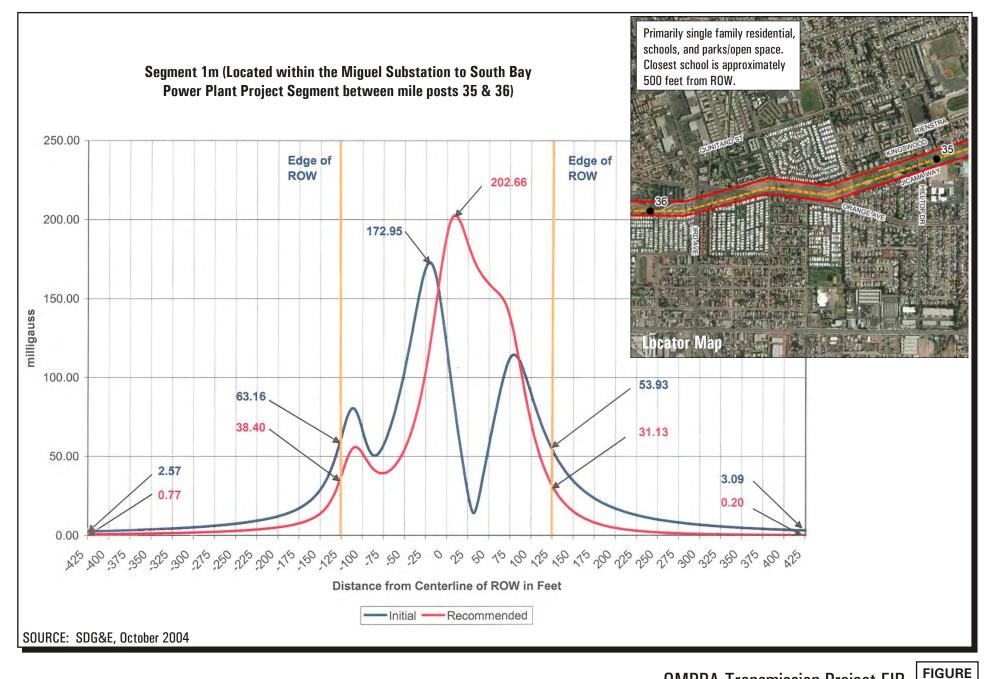
The magnetic field levels calculated by SDG&E are presented in *Table D.9-5* and include initial design magnetic field levels as well as recommended design levels that incorporate SDG&E's proposed measures to reduce magnetic fields consistent with CPUC G.0.131-D and CPUC Decision 93-11-013. SDG&E's modeling data were used to prepare *Figures D.9-1a* through *D.9-1e* to illustrate how field strengths would vary with distance from the transmission line for five segments of the overhead transmission line. These segments are located in areas between mileposts 30 and 36 where there are a number of residential uses and schools. These figures are based on magnetic fields calculated for the peak system load anticipated for summer 2007. Each figure presents magnetic profiles for the initial and a recommended project designs and annotations (arrows) that identify the

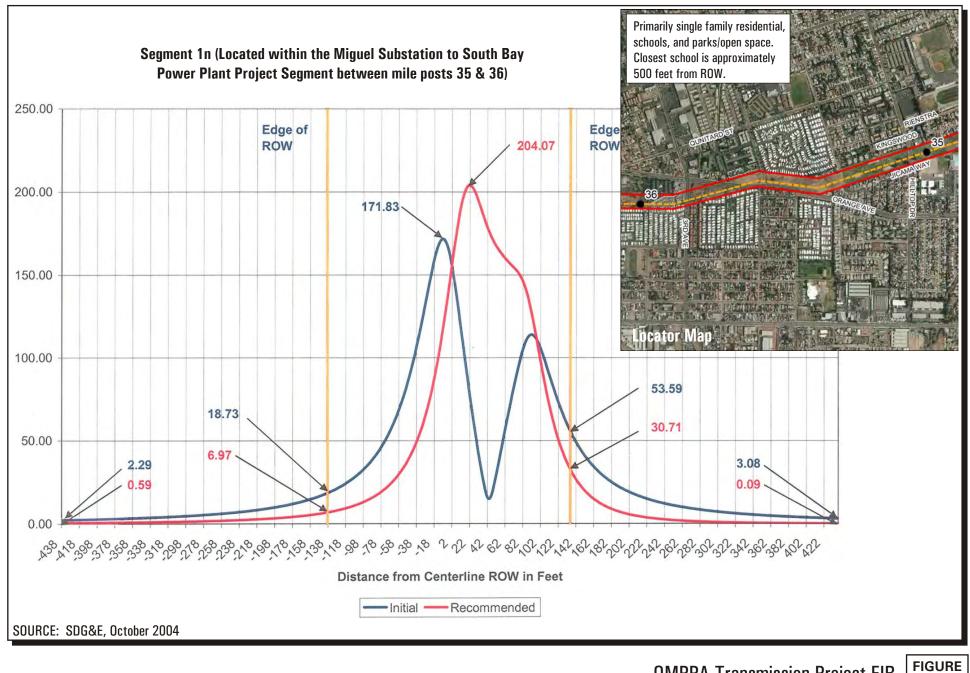






D.9-1c





	CAL	CULATED	MAGN	NETIC FIE	TABLE D. LDS: OVE		AD S	EGMENT	, PEAK LO	DAD			
Segment 1:	Miguel Subs	tation to Sou	ith Bay P	ower Plant									
		Initial Des	ign (mG)		Recomm	ended	Desigr	n (mG)		% Change			
Segment	Le	ft ROW	Righ	t ROW	Left ROW		Rig	ht ROW	Left ROV	N R	ght ROW		
1a	6	61.25	7(0.08	32.43		2	47.13	- 47.1%		- 32.7%		
1b	(60.73	63	3.78	32.18		2	10.86	- 47.0%		- 35.9%		
1c	-	77.33	63	3.91	47.92		2	11.01	- 38.0%		- 35.8%		
1d		77.50	63	3.90	47.12		4	11.01	- 39.2%		- 35.8%		
1e		27.71	7′	1.57	8.84		6	63.99	- 68.1%		- 10.6%		
1f		27.18	63	3.17	9.23		4	40.20	- 66.0%		- 36.4%		
1g		27.51	63	3.16	8.88		4	40.17	- 67.7%		- 36.4%		
1h		26.18	53	3.59	10.19		3	30.71	- 61.1%	- 42.7%			
1i		16.67	53	3.52	9.07		3	30.77	- 45.6%		- 42.5%		
1j		26.18	53	3.59	10.19		3	30.71	- 61.1%		- 42.7%		
1k	4	43.47	53	3.79	18.25		3	30.95	- 58.0%		- 42.5%		
1m	(63.16	53	3.93	38.40		3	31.13	- 39.2%		- 42.3%		
1n	· .	18.73	53	3.59	6.97		3	30.71	- 62.8%		- 42.7%		
10		26.03	53	3.73	14.83		3	30.78	- 43.0%		- 42.7%		
1р		35.87	52	2.62	6.67		3	34.81	- 81.4%		- 35.1%		
Average		41.03	59	9.26	20.08		3	37.66	- 51.1%		- 36.4%		
Segment 2:	Sweetwate	er River Tra	nsition	Area to Sic	ard Street T	ransiti	on Ar	ea					
		Initial Desig	gn (mG)		Recom	mende	d Desi	gn (mG)		% Change			
Segment	Left ROW	Cente	er	Right ROW	Left ROW	Cer	nter	Right ROW	Left ROW	Center	Right ROW		
2i	134.80			128.94	32.56			110.60	- 75.8%		- 14.2%		
2ј	146.13	120.5	4	128.12	24.18	119	9.09	116.74	- 83.5%	- 1.2%	- 8.9%		
2k	146.01	120.43		127.55	23.96	119	9.27	117.33	- 83.6%	- 1.0%	- 8.0%		
2m	149.05	121.8	3	127.97	25.15	118	3.44	116.65	- 83.1%	- 2.8%	- 8.8%		
2n	145.99 120		145.99 120		120.95		22.46	119	9.81	117.17	- 84.6%	- 0.9%	- 8.5%
Average	119.03	120.9	4	107.89	24.41	119	9.15	76.06	- 79.5%	- 1.5%	- 29.5%		

Source: SDG&E Magnetic Field Management Plan, February 2004.

Note: Segment areas are shown in SDG&E's Preliminary EMF Management Plan provided in Appendix 6 to this EIR.

peak magnetic field (in units of mG), values at the edges of the right-of-way, and at the maximum distances of 425 feet to either side of the centerline of the right-of-way. Overall, the figures illustrate a pattern of reductions in the magnetic fields in regions outside the right-of-way for the recommended design compared with the initial design.

Underground Segment

For the underground segment of the proposed transmission line, the EMF levels would also be variable depending on location. For the underground segment, the magnetic field magnitudes were calculated at ± 25 feet from centerline of the lines and at the centerline of the lines. *Table D.9-6* illustrates generalized field strengths of an underground 230 kV transmission line. The magnetic field from buried transmission lines depends greatly on the type of construction. As shown in *Table D.9-6*, magnetic fields above the centerline could be higher for underground cables in the initial design than beneath overhead transmission lines because immediately above the underground cable the field source is only a few feet from the ground surface. With overhead conductors, the conductors are much further from the ground surface. However, due to the close spacing of the underground cables, the magnetic field is more concentrated near underground transmission cables and decreases more rapidly with distance from the cable, resulting in a greatly reduced width within which magnetic fields are near their maximum values when compared with overhead portions of the line.

TABLE D.9-6 CALCULATED MAGNETIC FIELDS: UNDERGROUND SEGMENT, PEAK LOAD

	SEG	MENT 3: SIC	ARD STREE	T TRANSITIC	ON STATION	TO OLD TO	NN SUBSTAT	ΓΙΟΝ				
	Initial Design (mG) Recommended Design (mG) % Change											
Segment	Left	Center	Right	Left	Center	Right	Left	Center	Right			
3	18.94	210.92	18.94	1.09	41.30	1.09	- 94.2%	- 80.4%	- 94.2%			
Average	18.94 210.92 18.94 1.09 41.30 1.09 - 94.2% - 80.4% - 94.2%											

Source: SDG&E Magnetic Field Management Plan, February 2004.

D.9.5.5 EMF Issues Applicable to Alternatives

The EMF field levels for alternatives evaluated in this EIR would be similar to those described for the Proposed Project in *Section D.9.5.4*. Because all the alternatives evaluated in this EIR would occur within substantially the same alignment as the Proposed Project, the EMF issues applicable to alternatives would not be significantly different from the Proposed Project.

D.9.5.6 Summary Regarding EMF

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remain inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to

conclude that EMF causes cancer or other adverse health effects. Most recently, the International Agency for Research on Cancer (IARC) and the California Department of Health Services (DHS) both classified EMF as a possible carcinogen. The information included in the preceding sections identifies existing EMF exposures within the community, which are widespread and cover a very broad range of field intensities and duration, and provide specific information on the EMF levels estimated for the Proposed Project. Presently, there are no applicable regulations related to EMF levels from power lines. However, the CPUC has implemented a decision requiring utilities to incorporate "low cost" or "no cost" measures for managing EMF from power lines. SDG&E's OMPPA Transmission Project incorporates low cost and no cost measures as mitigation for magnetic fields consistent with CPUC Decision D.93-11-013 (see *Appendix 6* to this EIR).

D.9.6 Environmental Impacts and Mitigation Measures – Non-EMF Electric Power Field Issues

This section focuses on the following environmental impacts from the proposed OMPPA Transmission Project: corona; induced current; electronic equipment interference; wind, fire, and earthquake hazards; and effects on cardiac pacemakers. Impacts related to audible noise from corona are discussed in *Section D.8*.

D.9.6.1 Definition and Use of Significance Criteria

Radio/Television/Electronic Equipment Interference

There are no local, State, or federal regulations with specific limits on high frequency emissions from electric power facilities. Federal Communication Commission (FCC) regulations do not put limits on incidental radio frequency emissions (interference) from transmission lines, but harmful interference may be reported to the FCC Compliance and Information Bureau (FCC, 2004, p. 12).

Induced Currents and Shock Hazards

The National Electrical Safety Code (NESC) specifies that transmission lines be designed to limit short line current from vehicles or large objects near the line to no more than 5 milliampere (mA) (IEEE and ANSI, 2002). CPUC General Order 95 and the NESC also address shock hazards to the public by providing guideline son minimum clearances to be maintained for practical safeguarding of persons during the installation, operation, or maintenance of overhead transmission liens and their associated equipment.

Cardiac Pacemakers

It has been reported that synchronous pacemakers can be affected by electric fields between 2 kV/m and 9 kV/m (EPRI, 1985; 1979). As described above, when a synchronous pacemaker is in a field in this range, a few older model pacemakers may revert to an asynchronous mode.

Wind, Earthquake, and Fire Hazards

Transmission line structures used to support overhead transmission lines must meet the requirement of the CPUC General Order No. 95, Rules for Overhead Electric Line Construction. This design code and the National Electrical Safety Code include loading requirements related to wind conditions.

D.9.6.2 Environmental Impacts and Mitigation Measures for the Proposed Transmission Line

Impact PS-1: Radio and Television Interference

Corona or gap discharges related to high frequency radio and television interference impacts are dependent upon several factors including the strength of broadcast signals and is anticipated to be very localized if it occurs. Individual sources of adverse radio/television interference impacts can be located and corrected on the power lines. Conversely, magnetic field interference with electronic equipment such as computer monitors can be corrected through the use of software, shielding or changes at the monitor location. Mitigation Measures PS-1a and PS-1b are recommended to mitigate the potential impacts of interference to less than significant (Class II).

Mitigation Measures for Impact PS-1, Radio and Television Interference

- **PS-1a** Limit conductor surface potential. SDG&E shall, prior to construction, specify and implement designs that limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.
- **PS-1b Document complaints of broadcast interference.** After energizing the transmission line, SDG&E shall respond to and document all radio/television/equipment interference complaints received and document the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SDG&E to the CPUC for resolution.

Impact PS-2: Induced Currents and Shock Hazards in Joint Use Corridors

Induced currents and voltages on conducting objects near the proposed transmission lines represent a potential significant impact that can be mitigated. These impacts do not pose a threat in the environment if the conducting objects are properly grounded, and Mitigation Measure PS-2a is recommended to mitigate the potential impacts of induced currents to less than significant (Class II).

Mitigation Measure for Impact PS-2 Induced Currents and Shock Hazards

PS-2a As part of the siting and construction process for the Proposed Project, SDG&E shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC General Order 95 and the NESC do not have specific requirements for grounding). SDG&E shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, SDG&E shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to the Proposed Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SDG&E shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SDG&E to the CPUC for resolution.

The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects, which may require grounding and guidelines for maintaining the safety of the ROW.

Impact PS-3: Effects on Cardiac Pacemakers

The electric fields associated with the Proposed Project's transmission lines may be of sufficient magnitude to impact operation of a few older model pacemakers resulting in them reverting to an asynchronous pacing. Cardiovascular specialists do not consider prolonged asynchronous pacing to be a problem; periods of operation in this mode are commonly induced by cardiologists to check pacemaker performance. Therefore, while the transmission line's electric field may impact operation of some older model pacemakers, the result of the interference is of short duration and is not considered significant or harmful (Class III) and therefore, no mitigation is required.

Impact PS-4: Wind, Earthquake, and Fire Hazards

SDG&E is required to design the transmission line in accordance with safety requirements of the CPUC's General Order 95 and other applicable requirements. Based on the conservative nature of these specifications, operation of transmission line towers, poles, and associated hardware would not pose a significant impact for hazards precipitated by high wind; earthquake, or fires initiated by arcing of downed conductors. However, between mile-post 0.0 and 4.0 and 28 to30.0, project construction would take place in areas ranked as having a "Very High" fire hazard rating by the California Department of Forestry and Fire Protection. Staging areas containing equipment fuel and petroleum products, construction activities, and routine operations and maintenance activities including driving vehicles in wildlands areas would increase the potential risk of fire hazard in the area. Given the habitat and limited accessibility between mile-post 0.0 and 4.0, fire hazards associated with construction activities would be high. APM 19 which includes standard construction practices to minimize fire hazards, has been incorporated into the project to reduce potential fire hazards during construction to less than significant (Class III) and therefore, no mitigation is required.

Substations have similar equipment and also transformers, capacitors, reactors, switches, buses, and line breakers that are located in a locked, fenced enclosure. Substation equipment for the project poses no significant impact for the above hazards.

D.9.6.3 Environmental Impacts and Mitigation Measures for Alternatives

As described above, EMF is not evaluated as an environmental impact under CEQA, so an analysis of alternatives is not presented for that issue. For the other field-related concerns (radio and television interference, induced currents and shock hazards, effects on cardiac pacemakers, and other hazards), the impacts and mitigation measures presented in *Section D.9.6.2* would apply equally to all alternatives.

D.9.7 Mitigation Monitoring, Compliance, and Reporting Table

Table D.9-7 shows the mitigation monitoring, compliance, and reporting program for public health and safety. The CPUC with assistance from DTSC and San Diego County Department of Environmental Health is responsible for ensuring compliance with the mitigation monitoring, compliance and reporting program for public health and safety. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.9-7* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.9-7*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

		MITI	GATI	TABLE D.9-7 ON MONITORING PROGRAM – PU	U BLIC HEALTH A	AND SAFETY	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
HAZ-1	Potential Hazardous substance spills during construction		7	Prior to construction, all SDG&E, contractor, and subcontractor project personnel shall receive training regarding the appropriate work practices necessary to effectively comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures and SWPPP BMPs.	Plans to be submitted to CPUC and San Diego County Department of Environmental Health. SDG&E to incorporate measure into construction contracts.	SDG&E to submit evidence of training in order for the CPUC to verify.	Prior to construction.
			16	Hazardous materials shall not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment would be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, would be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.	sed any beSDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.SDG&E to submit construction contract in order for the CPUC to verify.During contract out to verify.		During construction.
			33	Hazardous materials spill kits would be maintained on- site for small spills.	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	SDG&E to submit construction contract in order for the CPUC to verify.	During construction.
			32	A hazardous substance management, handling, storage, disposal, and emergency response plan would be prepared and implemented and hazardous material spill kits would be maintained onsite for small spills.	Plans to be submitted to CPUC and San Diego County Department of Environmental Health.	CPUC to verify.	Prior to construction.
			38	Secure any required General Permit for Storm Water Discharges Associated With Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP erosion control measures during construction to minimize hydrologic impacts in areas sensitive from flooding or siltation into waterbodies.	SDG&E to implement measure as defined.	SDG&E to submit permits and SWPPP to the CPUC.	Prior to construction.

		MIT	IGATI	TABLE D.9-7 ON MONITORING PROGRAM – PU	J BLIC HEALTH A	AND SAFETY	
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
		HAZ- 1a		Review of training and response plan. The Environmental Training and Hazardous Substance Control and Emergency Response Plan proposed by APM 7, 16 and 32 shall be reviewed and approved by the CPUC and San Diego County Department of Environmental Health, Hazardous Materials Division	SDG&E to implement measure as defined.	CPUC to verify to ensure that potential exposure of workers, the public or the environment to hazardous materials in contaminated soil and/or groundwater has been minimized.	Prior to and during construction in all work areas.
HAZ-2	Excavation could result in mobilization of existing contamination	HAZ- 2a	7, 16, 32, 33, 38	See above for description of APMs. A Phase II Environmental Site Assessment shall be conducted prior to construction as required by the Phase I Environmental Site Assessment prepared for the project (EDR 2004) to determine if there is any surface or subsurface contamination. The investigation shall include a review of current status from agency files of listed contaminated sites presented in the summary tables for the entire project alignment. This review shall include the concentration and limits of contamination, type of release, and media affected. The Phase II investigation shall include collection of samples for laboratory analysis and quantification of contaminant levels within the proposed excavation and surface disturbance areas of the project prior to the start of construction. The scope of the field investigation shall be developed based on the agency file review of each listed contamination site and shall be in accordance with the standard of practice for assessment of appropriate worker protection and material handling and disposal procedures. Soil sampling and laboratory testing shall be conducted at locations along the project route, transition station site, and at substations where known contaminated sites are within 0.25 mile of the alignment or are determined to pose a threat to the project based	Plans to be submitted to CPUC and San Diego County Department of Environmental Health; SDG&E to implement Phase II and possible remediation as defined. SDG&E to incorporate measure into construction contracts.	CPUC to verify to ensure that potential exposure of workers, the public or the environment to hazardous materials in contaminated soil and/or groundwater has been minimized.	Prior to construction in all contaminated sites as identified in <i>Appendix 5</i> to this EIR and Phase I Environmental Study prepared for the project (EDR, 2004).

		MITI	GATI	TABLE D.9-7 ON MONITORING PROGRAM – PU	U BLIC HEALTH A	AND SAFETY	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
		HAZ- 2b		on the results of agency file review. If required by the Phase II investigation, remediation will occur in accordance with all applicable federal, state, and local regulations. Results of the Phase II investigation shall be used to determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject area. Areas with contaminated soil and/or groundwater determined to be hazardous waste shall be removed by personnel who have been trained through the OSHA recommended 40-hour safety program (29 CFR1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and offsite transport or onsite treatment. Results of the agency file review and Phase II investigations shall be reviewed and approved by the San Diego County's Department of Environmental Health prior to construction. A copy of the County Department of Environmental Health approval letter must be provided to the CPUC prior to start of construction. During activities including the removal of hazardous materials, SDG&E shall have an experienced environmental professional with 40-hour HAZWOPER training onsite. This professional shall monitor the work site for contamination and shall ensure the implementation of mitigation measures needed to ensure public health and safety including those of project construction workers and adjacent residences in accordance with State of California Health and Safety	SDG&E to implement measures defined. SDG&E to incorporate measure into construction contracts.	CPUC to inspect periodically and verify list of personnel to ensure that potential exposure of workers, the public or the environment to hazardous contaminated soil	During construction in all areas identified in Phase II assessment (see Measure HAZ-2a).
				Regulations as managed by the San Diego Department of Environmental Health.		and/or groundwater materials has been minimized.	

		MITI	GATI	TABLE D.9-7 ON MONITORING PROGRAM – PU	U BLIC HEALTH A	AND SAFETY	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
HAZ-3	Previously unknown soil or groundwater contamination could be encountered during construction	HAZ- 3a	7, 16, 32, 33, 38	See above for description of APMs. Observation of soil for contamination. During trenching, grading, or excavation work for the Proposed Project, the contractors shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during construction, the contractor shall stop work until the material is properly characterized and appropriate measures are taken to protect human health and the environment. The contractor shall comply with local, State, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials. In the event contaminated groundwater is encountered, the contractor shall document the exact location of the contamination, immediately notify the CPUC monitor, and comply with all applicable regulations and permit requirements. This may include laboratory testing, treatment of contaminated groundwater, or other disposal options. A weekly report listing encounters with contaminated soils and describing actions taken shall be submitted to the CPUC.	SDG&E to implement measures as defined. SDG&E to incorporate measure into construction contracts.	CPUC to verify to ensure that potential exposure of workers, the public or the environment to hazardous materials in contaminated soil and/or groundwater has been minimized.	All construction areas during construction.
HAZ-4	Release of hazardous materials during operation at transition station or substations	HAZ- 4a	32	See above for description of APM. Documentation of Compliance. SDG&E shall implement APMs 7, 32 and 33 at the transition station and at substations, and shall document compliance by (a) submitting to the CPUC for review and approval an outline of the proposed Environmental Training and Monitoring Program, (b) providing a list of names of all operations personnel who have completed the training program, and (c) providing a copy of the Spill Prevention, Control, and Countermeasures Plan (SPCCP) as required by Title 40 CFR Section 112.7 to the CPUC for	SDG&E to implement measures as defined. SDG&E to incorporate measure into construction contracts.	CPUC to review documentation provided; to verify training of all personnel and review and approve SPCCP to ensure that personnel are trained to respond to accidents or discoveries of hazardous materials.	Substation/transition station before start of operation.

		MITI	[GATI	TABLE D.9-7 ON MONITORING PROGRAM – PU	UBLIC HEALTH	AND SAFETY	
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				review and approval at least 60 days before the start of operation.			
		HAZ- 4b		No hazardous materials used by SDG&E for operations and maintenance of the proposed transition station or proposed substation equipment will be stored or disposed of onsite and their use or disposal will conform to applicable laws and regulations governing the use, management and disposal of hazardous materials.	SDG&E to implement measures as defined.	CPUC to review documentation provided to verify that operation and maintenance procedures ensure that no hazardous materials will be stored at or disposed of onsite.	Substation/transition station before start of operation.
PS-1	Radio and television interference	PS- 1a PS- 1b		Limit conductor surface potential. SDG&E shall, prior to construction, specify and implement designs that limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide. Document complaints of broadcast interference. After energizing the transmission line, SDG&E shall respond to and document all radio/television/equipment interference complaints received and document the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SDG&E to the CPUC for resolution.	SDG&E to implement measures as defined.	CPUC to review documentation to verify design has incorporated measures, and that any complaints received have been addressed by SDG&E.	Along entire corridor.
PS-2	Induced currents and shock hazards	PS- 2a		As part of the siting and construction process for the Proposed Project, SDG&E shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC General Order 95 and the NESC do not have specific requirements for grounding). SDG&E shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, SDG&E	SDG&E to implement measures as defined.	CPUC to review documentation to verify design has incorporated measures.	Along entire corridor.

		MIT	[GAT]	TABLE D.9-7 ON MONITORING PROGRAM – PU	U BLIC HEALTH A	AND SAFETY	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				 shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to the Proposed Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SDG&E shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SDG&E to the CPUC for resolution. The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects, which may require grounding and guidelines for maintaining the safety of the ROW. 			
PS-4	Fire hazards		19	Wildfires shall be prevented or minimized by exercising care when operating utility vehicles within the ROW and access roads and by not parking vehicles on or in close proximity to dry vegetation where hot catalytic converters can ignite a fire. In times of high fire hazard, it may be necessary for construction vehicles to carry water and shovels or fire extinguishers. Fire protective mats or shields would be used during grinding or welding to prevent or minimize the potential for fire.	SDG&E to implement measures as defined.		Along overhead portion of corridor.

D.9.8 References

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D.10 PUBLIC SERVICE AND UTILITIES

Section D.10.1 provides a summary of the existing utility and service provisions along the alignment of SDG&E's proposed OMPPA Transmission Project. Applicable regulations, plans, and standards are listed in Section D.10.2. Potential impacts and mitigation measures for the Proposed Project are presented in Section D.10.3, and alternatives are described and discussed in Section D.10.4. Mitigation monitoring, compliance and reporting are discussed in Section D.10.5.

D.10.1 Environmental Setting for the Proposed Project

This section presents the utility and service provisions by providing an overview of the type and general locations of utilities and services in relation to the Proposed Project alignment. Because government agencies have recently categorized data pertaining to utility systems (including their location, capacity, and type) as sensitive, critical infrastructure information, public access to these data has become restricted for security reasons. As such, only information that continues to be made public and is readily accessible is presented in this section. While specific data would provide a better picture of the existing utilities along the transmission corridors, in large part, this level of detail is unnecessary for the level of analysis needed to determine the impacts generated by the OMPPA Transmission Project. Baseline public service and utilities information was collected by reviewing SDG&E's PEA (March 2004), project plan and profile drawings (50% design underground segment) prepared for SDG&E by Black & Veatch, October 2004, showing known underground facilities based on best available information, project plan and profile drawings (50% design overhead segment) prepared by SDG&E, October 2004, North Embarcadero Visionary Plan Schematic Design, CCDC, March 2004, and other documents submitted by SDG&E for this project. Various engineering documents regarding the location of public utilities were also reviewed as well as consultation with various utility and service providers and local government agencies.

D.10.1.1 Existing Utilities

The OMPPA Transmission Project area is served by public service and utility systems within San Diego County, the Cities of San Diego, National City and Chula Vista, and MCAS Miramar. A variety of local purveyors in this area provide and maintain utilities associated with electricity, water, stormwater and wastewater, solid waste, and natural gas. Municipally operated lines provide sewer services in each of the jurisdictions along the OMPPA Transmission Project route. Similarly, stormwater flows are conveyed by the flood control facilities of each respective jurisdiction. *Table D.10-1* summarizes the public services and utilities providers serving the study area. *Table D.10-2* lists information for major utility types that would likely share utility corridor space with the project.

UTI	TABLE D.10.1 LITY AND SERVICE PROVIDERS BY JURISDICTION
Jurisdiction	Utility or Service System Provider
City of San Diego	 Natural Gas & Electricity – San Diego Gas & Electric Water – City of San Diego Water Department (from San Diego County Water Authority) Wastewater – City of San Diego Metropolitan Wastewater Department Fire Protection – San Diego Fire Department Police Protection – San Diego Police Department Telephone – Pacific Bell Cable Television – Cox Communications and Time Warner Cable Hospitals – Alvarado Hospital Medical Center, Charter Behavioral Health System of San Diego, Children's Hospital and Health Center, Kaiser Foundation Hospital, Mission Bay Hospital, Naval Medical Center, San Diego County Psychiatric Hospital, San Diego Hospice, Scripps Mercy Hospital, Sharp Cabrillo Hospital, Sharp Memorial Hospital, University of California San Diego Medical Center, Vencor Hospital – San Diego, Veterans Affairs Medical Center, Villaview Community Hospital Solid Waste – City of San Diego Department of Environmental Services, Refuse Collection Division Landfills Used – Arvin Sanitary Landfill, Fontana Refuse Disposal Site, Frank R. Bowerman Sanitary Landfill, Otay Annex Landfill, Prima Deshecha Sanitary Landfill, Ramona Landfill, Sycamore Sanitary Landfill, West Miramar Sanitary Landfill Transformation Facilities (Waste-To-Energy) Used – Commerce Refuse-To-Energy Facility,
	 Transformation Facilities (waste-To-Energy) Used – Commerce Refuse-To-Energy Facility, Covanta Stanislaus, Inc., Southeast Resource Recovery Facility School District – San Diego City Schools
City of Chula Vista	 Natural Gas & Electricity – San Diego Gas & Electric Water – Sweetwater Authority (western portion of Chula Vista), San Diego County Water Authority (eastern portion of Chula Vista served through the Otay Water District) Wastewater – City of Chula Vista Wastewater Engineering Department (wastewater conveyance facilities), City of San Diego Metropolitan Wastewater Department (wastewater treatment) Fire Protection – Chula Vista Fire Department Police Protection – Chula Vista Police Department Telephone – Pacific Bell Cable Television – Cox Communications and Chula Vista Cable Hospitals – Scripps Memorial Hospital Chula Vista, Sharp Chula Vista Hospital and Medical Center, Community Hospital of Chula Vista, Bayview Hospital and Mental Health System
	 Solid Waste – Pacific Waste Services, Inc. Landfills Used – Otay Landfill School Districts – Chula Vista Elementary School District, Sweetwater Union High School District
City of National City	 Natural Gas & Electricity – San Diego Gas & Electric Water – Sweetwater Authority Wastewater – City of National City Engineering Department (wastewater conveyance facilities), City of San Diego Metropolitan Wastewater Department (wastewater treatment) Fire Protection – National City Fire Department Police Protection – National City Police Department Telephone – Pacific Bell Cable Television – Cox Communications Hospitals – Behavioral Health Service, Healthy Beginnings, New Life Family Center, Paradise Valley Hospital, and Windsor Gardens Convalescent Hospital Solid Waste – EDCO Waste & Recycling Services School Districts – National School District, Sweetwater Union High School District

UTI	TABLE D.10.1 UTILITY AND SERVICE PROVIDERS BY JURISDICTION									
Jurisdiction	Utility or Service System Provider									
MCAS Miramar*	 Fire Protection – Navy & Marine Fire Protection Association, MCAS Miramar Fire Department Police Protection – U.S. Marines Military Police Landfills Used – Arvin Sanitary Landfill, Borrego Springs Landfill, Frank R. Bowerman Sanitary Landfill, Las Pulgas Landfill, Ocotillo Cut and Fill, Olinda Alpha Sanitary Landfill, Otay Annex Landfill, Prima Deshecha Sanitary Landfill, Ramona Landfill, Republic Imperial Landfill, San Onofre Landfill, Simi Valley Landfill – Recycling Center, Sycamore Sanitary Landfill, West Miramar Sanitary Landfill 									
San Diego County	 Natural Gas & Electricity – San Diego Gas & Electric Water – San Diego County Water Authority Wastewater – County of San Diego Department of Public Works Wastewater Management Section or City of San Diego Metropolitan Wastewater Department Fire Protection – San Diego Rural Fire Protection District, California Department of Forestry and Fire Protection, United States Forest Service Police Protection – San Diego County Sheriff's Department, California Highway Patrol Telephone – Pacific Bell Cable Television – Cox Communications and Time Warner Cable Hospitals – Camp Pendleton Naval Hospital, Bayview Hospital and Mental Health System, Scripps Memorial Hospital-Chula Vista, Sharp Chula Vista Hospital and Medical Center, Sharp Coronado Hospital, Kaiser Foundation Hospital, Scripps Memorial Hospital Encinitas, Palomar Medical Center, Fallbrook Hospital District, Scripps Memorial Hospital, Alvarado Hospital, Paradise Valley Hospital, Tri-City Medical Center, Pomerado Hospital, Alvarado Hospital Medical Center, Charter Behavioral Health System 									

Not all information publicly available

*

Sources: SDG&E 2004(a)(c)(e), City of Chula Vista 2004, Otay Water District 2004, City of San Diego 2004, City of National City 2004, County of San Diego 2004, MCAS Miramar 2004, Helpline Database 2004, Sweetwater Union High School District 2004, National School District 2004, Chula Vista Elementary School District 2004, San Diego City Schools 2004

	TABLE D.10-2 POTENTIAL SHARED UNDERGROUND UTILITIES ALONG THE OMPPA TRANSMISSION PROJECT ROUTE											
MileROWJurisdictionNaturalElectricalWastewater/Telephone/PetroleumSegmentPostDescriptionJurisdictionGasmissionWaterSewerCablePipeline												
Sycamore Canyon to Fanita Junction	0 to 4	Transmission corridor	MCAS Miramar		X							
Miguel to South Bay	28 – 38	Transmission corridor	County of San Diego, City of Chula Vista	Х	X	X	X	X	X			
South Bay to Sweetwater	38- 41	Transmission corridor	City of Chula Vista	Х	X				X			

TABLE D.10-2 POTENTIAL SHARED UNDERGROUND UTILITIES ALONG THE OMPPA TRANSMISSION PROJECT ROUTE											
Segment	Mile Post	ROW Description	Jurisdiction	Natural Gas	Electrical Trans- mission	Water	Wastewater/ Sewer	Telephone/ Fiber Optic Cable	Petroleum Product Pipeline		
Sweetwater to Sicard Street	41 – 45	Transmission corridor	National City, City of San Diego	Х	X	Х	Х	Х	Х		
Sicard Street Transition Area to Olcl Town Substation	45- 52	Road ROW (Sicard Street, Harbor Drive, Highway 75, Pacific Highway, Friars Road, Greenwood Street, Linda Vista Road, Mildred Street, Benicia Street), railway track, San Diego Trolley tracks, and Caltrans property	City of San Diego, Metropolitan Transit Board, Caltrans	X	X	X	X	X	X		

Sources: Pers. comm., Raguini, 2004; Pers. comm., Bosse, 2004; Black & Veatch 2004; San Diego City 2004; SDG&E 2004.

Sycamore Canyon to Miguel Substation, Miguel Substation to Sicard Street Transition Area. Public utilities run parallel to, or cross, most of SDG&E's ROW where the OMPPA Transmission Project is proposed within SDG&E's existing ROW in the form of water mains, sewer pipes, stormdrains, power lines, gas mains, telephone and fiber optic lines, and other petroleum product pipelines.

Sicard Street Transition Area to Old Town. The Proposed Project alignment between the Sicard Street Transition Area and the Old Town Substation is proposed outside SDG&E's ROW within City of San Diego roadways, in an urban area that already supports a considerable number and concentration of buried utilities.

D.10.1.2 Proposed Utilities

Proposed utilities consist of specific development proposals, which have been recently approved or are currently under consideration for approval by governmental agencies.

Harbor Drive Trunk Sewer. The City of San Diego is proposing to upgrade and rehabilitate an existing, decaying 8-inch trunk sewer within Harbor Drive from 28th Street to Park Boulevard. Construction is anticipated to occur in December 2005 and conclude January 2007.

Pacific Highway Water Main Replacement (Water Group 532). The City of San Diego is proposing to replace water mains located within Pacific Highway from Harbor Drive to F Street. Construction is anticipated to occur in May 2005 and conclude May 2008.

Broadway Water and Sewer Replacement (Group 711). The City of San Diego proposes to replace both water and sewer mains located in West Broadway from Pacific Highway to North Harbor Drive. Construction activities are scheduled to begin December 2005 and conclude August 2006.

Ash Street and A Street Water and Sewer Replacement (Group 747). The City of San Diego proposes to replace both water and sewer mains located in West Ash Street and A Street. Construction activities are scheduled to begin June 2006 and conclude April 2007.

Pacific Highway Trunk Sewer Replacement. This City of San Diego Proposed Project involves replacement of an existing trunk sewer within Pacific Highway from Grape Street to Sassafras Street. Construction is anticipated to occur in August 2005 and conclude August 2006.

North Embarcadero Visionary Plan. The North Embarcadero Visionary Plan (NEVP) is a collaborative planning effort by the Centre City Development Corporation, City of San Diego, San Diego Unified Port District, County of San Diego and U.S. Navy. The NEVP includes a number of pedestrian and public access proposals that would include relocation of existing above- and below- ground utilities including storm drains, street lights, water and sewer mains, telephone and fiber optic cable lines, electric lines, petroleum product lines, and natural gas pipelines. These proposed utility relocations occur along the Proposed Project ROW on G Street, Harbor Drive, F Street, C Street, Broadway Street, and E Street. Refer to *Section D.7, Land Use Subsection D.7.1.2, Planned Land Uses*, for further discussion of the NEVP.

D.10.1.3 Public Services

<u>Fire</u>

San Diego County is served by over 50 different fire agencies, including individual city and community fire departments, the California Department of Forestry and Fire Protection, the U.S. Marines Corps Air Station Miramar Fire Department, and the United States Forest Service. There are fire stations within 0.25 mile of the project including: the Lakeside Fire Department Station #3, the Chula Vista Fire Department Station #4, and Fire Station #7 in the City of San Diego. Fire service providers for each jurisdiction in the study area are listed in *Table D.10.1*.

Police

The San Diego County Sheriff's Department is the primary law enforcement agency in San Diego County. The Sheriff's Department provides general and specialized regional services to the entire county, whether the services are needed in incorporated cities within the county or in the unincorporated areas not services by a city law enforcement agency. The California Highway Patrol provides traffic service for the unincorporated areas of San Diego. All police agencies respond to calls within their designated jurisdictions (City of San Diego, City of National City, and City of Chula Vista) and, in extraordinary circumstances, assist in neighboring jurisdictions. Police services for each jurisdiction in the study area are listed in *Table D.10.1*.

Hospitals

There are numerous hospitals, medical centers, health service facilities, and physicians' offices in the San Diego region. Hospitals and other medical facilities for each jurisdiction in the study area are listed in *Table D.10.1*.

<u>Schools</u>

San Diego County has 42 school districts, with approximately 590 public and 100 private schools. *Table D.10.1* shows the school districts in each jurisdiction in the study area. Sixteen public and private schools are within 0.25 mile of the project. *Table D.10.3* lists these elementary and high schools and their respective locations. In addition to those listed in the table, Liberty Elementary School is currently under construction. Located as 2175 Proctor Valley Road in Chula Vista near milepost 29 on the Miguel Substation to South Bay Power Plant Area segment, it is scheduled to open in July 2004. The University of San Diego is near milepost 52 on the Sicard Street Transition Area to Old Town Substation segment.

TABLE D.10-3 PUBLIC AND PRIVATE SCHOOLS WITHIN 0.25 MILE OF PROJECT AREA								
School Name	Mile- post	Location	Number of Students					
Sycamore Canyon Substation to Fanita Junction								
No schools are located within 0.25 mile.								
Miguel Substation to South Bay Power Plan Area								
Bonita Country Day School	30.75	625 Otay Lakes Road, Chula Vista	66					
Bonita Vista Middle School	30.75	650 Otay Lakes Road, Chula Vista	1,205					
Bonita Vista Senior High School	30.75	751 Otay Lakes Road, Chula Vista	2,823					
Castle Park Middle School	35.50	160 Quintard Street, Chula Vista	1,509					

TABLE D.10-3 PUBLIC AND PRIVATE SCHOOLS WITHIN 0.25 MILE OF PROJECT AREA								
School Name	Mile- post	Location	Number of Students					
Castle Park High School	35.00	1395 Hilltop Drive, Chula Vista	2,299					
Discovery Elementary Charter School	31.50	1100 Camino Biscay, Chula Vista	821					
Harborside Elementary School	37.25	681 Naples Street, Chula Vista	730					
Loma Verde Elementary School	35.00	1450 Loma Lane, Chula Vista	656					
Montgomery (John J.) elementary School	36.25	1601 4 th Avenue, Chula Vista	419					
Palomar Elementary School	34.25	300 E. Palomar Street, Chula Vista	440					
Palomar High Continuation School	36.50	480 Palomar Street, Chula Vista	439					
Rogers (Greg) Elementary School	33.25	510 E. Naples Street, Chula Vista	589					
South Bay Power Plant Area to Sicard Street Transition Area								
Kimball Elementary School	42.00	302 W. 18th Street, National City	478					
Robert L. Mueller Elementary School	39.25	715 I Street, Chula Vista	920					
Sicard Street Transition Area to Old Town Substation								
Perkins Elementary School	45.50	1770 Main Street, San Diego	440					
Washington Elementary School	48.00	1789 State Street, San Diego	335					

Source: SDG&E 2004a

D.10.2 Applicable Regulations, Plans, and Standards

The following section presents the State, regional and local utility service system regulations, plans, and standards that are directly applicable to the OMPPA Transmission Project and alternatives.

D.10.2.1 State

The responsibilities of utility operators and other excavators working in the vicinity of utilities are detailed in Section 1, Chapter 3.1 "Protection of Underground Infrastructure," Article 2 of California Public Utilities Code. This law requires that an excavator must contact a regional notifications center at least two days prior to excavation of any subsurface installations. The notifications center for the project area is Underground Service Alert. Any utility provider seeking to begin an excavation project can call Underground Service Alert's toll-free hotline. Underground Service Alert, in turn, will notify the utilities that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of excavation. The excavator is required to probe and expose the underground facilities by hand prior to using power equipment.

D.10.2.2 Regional and Local

The municipal plans for the City of San Diego, National City and the City of Chula Vista, as well as plans for a number of the parks and recreational facilities within the study area, have a variety of goals and policies related to utilities and public service systems and generally describe the municipalities' provision and management of fire and police protection services and activities, water and sewer systems, and the visual and safety aspects of the location of utilities, in particular the burial of utility lines to reduce visual impacts. The locational, safety, and visual issues associated with the OMPPA Transmission Project are discussed in *Sections D.7, Land Use, D.9, Public Health and Safety,* and *D.13, Visual Resources,* respectively. While the provision of fire and police protection services is described within the plans for local jurisdictions and general goals and policies are laid out for these services, none directly address the public service issues associated with this project in particular.

The City of San Diego Underground Utilities Conversion Committee is an internal City of San Diego committee for City departments to coordinate utility construction. The City of San Diego Underground Utilities Planning Committee is a committee of both private utilities and City of San Diego departments to coordinate planning and construction of underground utilities in the City of San Diego. Private utilities attend the planning committee meetings during the final design and construction planning for new underground utilities in the City of San Diego. The purpose of the planning committee is to help coordinate construction of underground utilities and street improvements, and to eliminate potential utility planning problems. (Pers. comm., Raguini, 2004)

D.10.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.10.3.1 Definition and Use of Significance Criteria

Significant impacts to public services and utilities would occur if any of the following would occur:

- The Project would disrupt the existing utility systems or would cause a collocation accident;
- The Project would preclude emergency access or access to public facilities, or would increase the need for police, fire, or school facilities; or
- The Project would require water, or would generate solid waste or wastewater, that exceeds the ability of existing facilities to accommodate the new capacities.

D.10.3.2 Applicant Proposed Measures

Table D.10.4 presents APMs proposed by SDG&E to reduce impacts to public services and utilities.

TABLE D.10-4 APPLICANT PROPOSED MEASURES PUBLIC SERVICES AND UTILITIES

APM No.	Description
19	Wildfires shall be prevented or minimized by exercising care when operating utility vehicles within the ROW and access roads and by not parking vehicles on or in close proximity to dry vegetation where hot catalytic converters can ignite a fire. In times of high fire hazard, it may be necessary for construction vehicles to carry water and shovels or fire extinguishers. Fire protective mats or shields would be used during grinding or welding to prevent or minimize the potential for fire.
66	Underground Service Alert would be notified a minimum of 48 hours in advance of earth-disturbing activities in order to identify buried utilities.

Source: SDG&E, 2004a

D.10.3.3 230 kV Overhead Transmission Line

Impact U-1: Utility System Disruptions

The study area for analysis of the overhead segment of the OMPPA Transmission Project includes approximately 18 miles of overhead transmission line to be installed from mile-post 0 to 4, from mile-post 28 to 38 and along mile-post 41 to 45 within SDG&E's existing utility corridor. As shown in *Table D.10-2*, utilities such as water, sewer, and natural gas pipelines, petroleum product pipelines, and electric and cables lines, may be buried in the existing utility easement. During construction of the OMPPA Transmission Project, new poles and transmission structures would be installed. Although the existing tower and pole foundations would be left in place, installation of new transmission structures and poles would require drilling excavation for new foundations.

As described in *Section D.10.1*, and listed in *Table D.10-2*, existing underground utilities are located in the vicinity of the proposed new overhead 230 kV transmission line. The San Diego County Water Authority and Sweetwater Authority have raised concerns regarding underground water mains and pipelines located in close proximity to the proposed ROW. The project has the potential to conflict with the San Diego County Water Authority's and Sweetwater Authority's,

as well as other existing and planned underground utilities in this area. As described above under APM No. 66, the Applicant is required by State law to contact Underground Service Alert and manually probe for existing buried utilities in the Proposed Project corridor prior to any powered-equipment drilling or excavation. After probing the corridor for existing utilities, exact placement of the transmission structure and pole foundations would be determined so that placement of new structures would not conflict with other co-located utilities. With incorporation of this standard construction practice, conflicts with existing utilities are expected to be less than significant (Class III) and therefore no mitigation is required.

Section B.3.7 of the Project Description describes potential electrical service interruptions during construction. The Proposed Project would be phased in accordance with Cal-ISO requirements in order to reduce the potential for electricity service interruptions during construction. There could be some short-term local outage (less than 8-hour period during daylight hours) in order to transfer the power from one circuit to another. The Applicant plans on sequencing the construction of the OMPPA Transmission Project in sections, taking only one or two connections out of service at a time to ensure that less than significant (Class III) interruptions to the existing line occur and therefore, no mitigation is required.

As discussed in *Section D.10.1.1*, various utilities (natural gas, water/sewer pipelines, electric transmission lines) share the proposed ROW with existing transmission lines. Therefore, there would be potential for service interruptions of these utilities during construction of the OMPPA Transmission Project. Excavation and drilling along the proposed overhead segment would be in specific locations along the existing SDG&E ROW where there would be a need for new transmission structures or poles. Therefore, since construction along this segment would not require continuous trenching, potential accidental disruption of utilities is relatively low. However, during construction, service disruptions may be unavoidable and potential conflicts with existing utilities may exist. While service disruptions would be expected to be temporary in nature, these disruptions would hinder activities in the surrounding area. These impacts are considered potentially significant. Implementation of Mitigation Measure U-1a would mitigate impacts associated with utility disruption (Impact U-1) to less than significant levels (Class II).

Mitigation Measure for Impact U-1: Utility Disruption Impacts

U-1a Notification of Utility Service Interruption. Prior to construction in which a utility service interruption is known to be unavoidable, the Applicant shall notify members of the public affected by the planned outage by mail of the impending interruption, and shall post flyers informing the public of service interruption in neighborhoods affected by the planned outage. Copies of the notices and dates shall be provided to the CPUC at the time the notices are distributed to the public.

Impact U-2: Public Service System Disruptions

Fire protection and other emergency service providers could be required at a project construction site in the event of a construction accident. The likelihood of an accident requiring such a response would be low. Overall, project construction would not occur in dangerous areas; however, between mile-post 0 and 4, project construction would take place in areas ranked as having a "Very High" fire hazard rating by the California Department of Forestry and Fire Protection. Staging areas containing equipment fuel and petroleum productions, construction activities, and routine operations and maintenance activities including driving vehicles in wildlands areas would increase the potential risk of fire hazard in the area. Given the habitat and limited accessibility between mile-post 0 and 4, fire hazards associated with construction activities would be high. APM 19 which includes standard construction practices to minimize fire hazards has been incorporated into the project to reduce potential fire hazards during construction. Additionally, SDG&E is required to design the transmission line in accordance with safety requirements of the CPUC's General Order 95 and other applicable requirements. Based on the conservative nature of these specifications, operation of transmission lines would not pose a significant fire hazard. Since the potential for fire hazard due to construction and operation would not be significant and respective fire departments are prepared to respond to accidents in their jurisdictions, the construction and operation of the proposed overhead circuits would represent a less than significant impact (Class III) and therefore, no further mitigation is required.

As discussed in *Section D.11*, *Population and Housing*, and *F.1*, *Growth Inducement*, neither construction nor operation of the OMPPA Transmission Project is expected to result in an increase in the local population. Few, if any, workers are expected to relocate to the area temporarily for construction, and no new workers are required for operation of the project. Therefore, the OMPPA Transmission Project would not increase any demands on schools or lower the long-term level of service for fire protection or police protection.

Impact U-3: Project-Required Utility and Public Service Demands

The overhead segment of the OMPPA Transmission Project would require water on a daily basis at construction sites for dust suppression, and would generate waste largely in the form of soil.

The Applicant does not expect to use significant amounts of water for any construction activities. Water would primarily be used for dust suppression, the amount depending on the length of access roads used, weather conditions, road surface conditions, and other site-specific conditions. Once constructed, the OMPPA Transmission Project would require no water. As identified in *Table D.10.1*, the project route is served by a variety of potable and non-potable water providers that should adequately supply the required water. Because project construction would be

temporary and short-term, the quantity of water used for the OMPPA Transmission Project is considered to be relatively minor and would have a less than significant impact to the regional water supply (Class III) and therefore, no mitigation is required.

Construction of the OMPPA Transmission Project would generate waste largely in the form of soil excavated for new pole foundations and removal of existing transmission structures. Approximately 5,000 cubic yards of material would be excavated during development of the overhead segment of the Project. Soil from drilling or excavation for new tower foundations would be screened and separated for use as backfill materials at the site of origin to the maximum extent feasible. Spoils unsuitable for backfill use would be disposed of at appropriate disposal sites. Metal from tower structures that are removed would be transported to staging areas and a contractor would dismantle the towers and haul the metal to a recycling plant. As identified in *Table D.10.1*, the project route is served by a variety of waste management agencies and landfills. Due to the number and capacity of landfills serving the project area, capacity for materials generated from construction of the OMPPA Transmission Project is expected to be Recycling activities would reduce the quantity of construction-related materials available. transported to local landfills. Construction activities would not substantially affect the remaining capacities of local landfills and therefore, impacts to solid waste facilities would be less than significant, requiring no mitigation (Class III). Project operations would not generate solid waste and would therefore not affect existing landfill capacities.

The OMPPA Transmission Project would not generate wastewater and therefore, no impacts to wastewater facilities would occur. While construction of the overhead segment of the OMPPA Transmission Project would incrementally increase the non-permeable surfaces along the proposed route with the construction of new transmission structures foundations and footings, there would be no identifiable change in the amount of runoff resulting from the overhead segment of the Project. No part of construction or operation of the overhead segment of the OMPPA Transmission Project would generate stormwater in amounts exceeding the capacity of local facilities.

D.10.3.4 230 kV Underground Cable

The approximately ten-mile underground transmission cable would be installed from South Bay Power Plant Area to the Sweetwater River Transition Area primarily within SDG&E's existing utility ROW and from the Sicard Street Transition Area to the Old Town Substation within City of San Diego roadways. All construction within roadways would be in franchise positioning and not a transmission easement. SDG&E proposes to negotiate Joint Use Agreements for facilities installed in public streets in order to better secure a long-term position to reduce the threat of relocation requirements in the future. SDG&E Encroachment Guidelines require ten-foot clearances to parallel structures to allow adequate protection of underground facilities. Otherwise, underground facilities are designed per CPUC General Order 128 requirements. Due to the trenching necessary for installation of the underground transmission cable and the large number of existing, proposed or pending future utilities in the proposed project corridor between the Sicard Street Transition Area and the Old Town Substation, utility and public service system disruption impacts and potential conflicts would be greater for this segment than for the overhead segment.

Impact U-1: Utility System Disruption

The proposed underground cable alignment is located in urban areas that already support a considerable number and concentration of buried utilities. Existing utilities such as water, sewer, and natural gas pipelines, petroleum product pipelines, telephone and electric cables lines are buried in the proposed 230 kV underground cable alignment. Overhead electrical lines parallel and cross the proposed alignment at many points along the proposed route. In addition, as described in *Section D.10.1.2*, the proposed underground segment of the project could potentially affect a number of planned utility improvement projects within the City of San Diego.

The 50 percent design plan and profile drawings prepared for the underground segment of the project for SDG&E by Black & Veatch (October 2004) show that known utility conflicts have been reviewed and avoided (Black & Veatch, October 2004). As described under APM No. 66, the Applicant is required by State law to contact Underground Service Alert and manually probe for existing buried utilities in the Proposed Project corridor prior to any powered-equipment drilling or excavation. After probing the corridor for existing utilities, exact placement of the transmission cable would be determined so that it would not conflict with other co-located utilities. With incorporation of this standard construction practice, conflicts with existing utilities are expected to be less than significant (Class III) and therefore, no further mitigation is required.

Given the large number of existing utilities that are present within the Public ROW along the proposed underground alignment, some service disruptions during construction could be unavoidable. These disruptions could occur while the transmission line and vaults are installed in the trench and the interrupted utility is reconnected around the transmission line. As described above, service interruption during construction could be unavoidable and without notification of the public would significantly hinder activities in the surrounding areas. These impacts are considered significant and can be mitigated to less than significant levels (Class II) with the implementation of Mitigation Measures U-1a (above).

Because underground line construction involves more construction in close proximity to existing and proposed utilities on a mile-per-mile basis than overhead construction, the chances of underground line construction activities causing a conflict with proposed utilities are greater than for overhead construction. Development of the proposed 230 kV cable could conflict with proposed and pending future utilities and maintenance of those utilities including, but not limited to, the Harbor Drive Trunk Sewer Project, Pacific Highway Water Main Replacement Project, Broadway Water and Sewer Replacement Project, Ash Street and A Street Water and Sewer Replacement Project, Pacific Highway Trunk Sewer Replacement Project, and the NEVP. In addition, there is potential for the proposed underground transmission line to increase corrosion on existing planned and pending steel pipelines, which could lead to long term accidental system disruption of such pipelines. Conflicts with proposed and pending future utilities and maintenance of those utilities (Impact U-1) are considered significant impacts and can be mitigated to less than significant levels (Class II) with implementation of Mitigation Measures U-1a, U-1b, U-1c, and U-1d. *Note: Impacts to the NEVP that are not utility-related are addressed in Section D.7, Land Use and Section D.12, Transportation and Traffic, of this EIR.*

Mitigation Measures for Impact U-1: Utility System Disruption Impacts

U-1b During project design, SDG&E shall coordinate with each jurisdiction affected by the underground cable to determine the exact location for placement of the cable to avoid conflicts with planned and proposed utility projects and any relocation of existing utilities occurring within the direct vicinity of the project.

Coordination with the following jurisdictional departments shall occur in conjunction with final design of the underground cable portion of the project:

- City of San Diego Development Services
- Center City Redevelopment Corporation

Documentation of coordinating efforts and local jurisdiction approval of final design plans for the underground cable portion of the project shall be provided to the CPUC prior to the start of construction activities.

- **U-1c Protection of Underground Utilities.** Prior to construction of the underground transmission line, the Applicant shall submit to the CPUC written documentation, including evidence of review by the appropriate jurisdictions, including the following:
 - Construction plans designed to protect existing utilities and showing the dimensions and location of the finalized alignment;
 - Records that the Applicant provided the plans to affected jurisdiction for review, revision and final approval;
 - Evidence that the project meets all necessary local requirements;
 - Evidence of compliance with design standards;

- Copies of any necessary permits, agreements, or condition of approval;
- Records of any discretionary decisions made by the appropriate agencies.
- **U-1d** Utilities Protection Against Corrosion. SDG&E shall evaluate the potential for the underground transmission line to increase corrosion on existing and planned pipelines. If this potential is determined to exist, SDG&E shall be responsible for installation of the required cathodic protection systems that would eliminate this risk. A letter documenting these consultations and their results, including concurrence by the affected jurisdiction(s) and other companies, shall be provided to the CPUC prior to the start of construction.

Impact U-2: Public Service System Disruption

Trenching for the underground route between the Sicard Street Transition Area and the Old Town Substation within the public ROW in downtown San Diego streets could interfere with emergency service providers (e.g., ambulance, fire, paramedic, and police vehicles). The possibility exists that traffic congestion resulting from lane or road closures associated with underground line construction could impede emergency service providers. This is considered a significant impact and would be mitigated to a level that is less than significant (Class II) with implementation of the traffic Mitigation Measure T-6a (see *Section D.12.5, Transportation and Traffic*). Mitigation Measure T-6a includes requirements for the Applicant to coordinate in advance of construction with emergency service providers and to have provisions ready at all times to accommodate emergency services, such as plating over excavations and providing short detours when necessary.

As with the overhead segment, operation of the underground portion of the project would not increase demand on schools or raise the level of service demand for fire or police protection.

Impact U-3: Project-Required Utility and Public Service Demands

For construction of the underground segment of the OMPPA Transmission Project, water would be required for street cleaning, and construction debris, asphalt, concrete and trenching spoils would be generated as wastes. A limited amount of wastewater is expected to be generated during trenching and boring activities due to dewatering. Impacts due to dewatering are discussed in *Section D.6, Hydrology and Water Quality*. Wastewater would not be generated during operations because the majority of the trenching would be in existing paved roads, no additional runoff would result from the project.

As described above for the overhead portion of the OMPPA Transmission Project, once constructed, the underground portion of the OMPPA Transmission Project would require no water. As identified in *Table D.10.1*, the project route is served by a variety of potable and non-

potable water sources that should adequate supply the required water. Because construction of the underground segment of the project would be temporary and short-term (approximately 10 months), the quantity of water used for construction would have a less than significant impact on the regional water supply (Class III) and therefore, no mitigation is required.

Construction of the underground cable segment of the Proposed Project would generate approximately 100,000 cubic yards of excavated material. Asphalt, concrete, trenching spoils, and other excavated material would be reused on the site to the greatest extent feasible. Material that cannot be reused would be hauled to local asphalt manufacturers, recyclers, or transported to landfills. As discussed for the overhead portion of the project, construction-related materials transported to disposal facilities during construction of the underground portion of the OMPPA Transmission Project would not substantially affect the remaining capacities of local landfills. Project operations would not generate solid waste and would therefore not affect existing landfill capacities. Impacts to solid waste facilities would be adverse, but less than significant (Class III) and therefore, no mitigation is required.

D.10.3.5 Transition Station

As described in APM 66, excavation for the transition station foundation and underground vault would require the Applicant to contact Underground Service Alert and manually probe for existing buried utilities at the proposed site prior to any powered-equipment drilling or excavation. With incorporation of this standard construction practice, conflicts with existing utilities (Impact U-1) would be less than significant, and therefore, no further mitigation is required (Class III). There is a potential for construction at the transition station to disrupt utilities (Impact U-1) such as water, electricity, natural gas, and telecommunications. As discussed above, the utility service interruption may be unavoidable and without notification of the public, utility services could be disrupted in the surrounding area. This impact is considered significant and can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measure U-1a.

Construction activities at the transition station would have the same public service system disruption impacts (Impact U-2) as those described for the overhead segment of the OMPPA Transmission Project (see *Section D.10.3.3*). Neither construction nor operation of the proposed transition station is expected to increase local population. Therefore, the transition station would not increase any demands on schools or raise the level of service for fire protection or police protection.

Construction of the transition station would require use of water for dust suppression and would generate small amounts of construction waste. Impacts on utility demand (Impact U-3) associated with water supply, wastewater facilities, and area landfills would be adverse, but less

than significant (Class III) and therefore, no mitigation is required. No wastewater would be generated and no increase in stormwater runoff would occur.

D.10.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

Because proposed modifications would occur within existing substations, the location of existing utilities on the sites should be known. Therefore, the potential for accidental utility system disruption or conflict (Impact U-1) is very low, and would be a less than significant impact, requiring no mitigation (Class III).

Similar to utility system disruptions, because construction and modification of the substations would occur on the Applicant's property, it is unlikely that construction at any of these locations would disrupt public services (Impact U-2), or restrict access to emergency vehicles or to public facilities.

Operation of these facilities would not increase demands on public facilities. There would be no long-term impacts to schools, fire, or police services.

Project-required utility impacts (Impact U-3) for the substations would be the same as those described for the proposed (see *Section D.10.3.5*). Impacts would be adverse, but less than significant (Class III) and therefore, no mitigation is required.

D.10.4 Project Alternatives

D.10.4.1 SDG&E Design Option Alternatives (*Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives*)

Environmental Setting

Section D.10.1 describes the public service and utilities setting along the Proposed Project alignment. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing public service and utilities conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. The underground portion of the Pacific Highway Bridge Attachment Alternative would take place in public ROW associated with existing City of San Diego roadways within the primarily commercial and industrial areas that already support a number of utilities. All construction would be in a franchise positioning and not a transmission easement. As described in APM No. 66, the Applicant would contact Underground Service Alert and manually probe for existing buried utilities in the corridor prior to and excavation. With incorporation of this standard construction practice, conflicts with existing utilities (Impact U-1) are expected to be less than significant (Class III) and therefore no further mitigation is rerquired. Implementation of Mitigation Measures U-1a, U-1b, U-1c and U-1d would ensure that any service interruption would be mitigated to a less than significant impact (Class II). The additional trenching associated with the Pacific Highway Bridge Attachment along with the construction activities required to attach the 230 kV cable to the Pacific Highway Bridge could interfere with emergency service providers (Impact U-2). Implementation of Mitigation Measure T-6a provided in Section D.12.5, Transportation and Traffic of this EIR would mitigate construction related interference with emergency service providers to less than significant (Class II).

Harbor Drive Bridge Attachment Design Alternative: The Harbor Drive Bridge Attachment Design Alternative is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. Because this alternative entails only the attachment of the proposed 230 kV cable to the existing Harbor Drive Bridge, less than significant impacts requiring no mitigation (Class III) to public services or utilities would occur due to implementation of this alternative.

Sicard Street Transition Cable Pole Design Alternative: The public service and utility impacts for the Sicard Street Transition Cable Pole would not be significantly different from the proposed Sicard Street Transition Station. Utility conflicts and disruption (Impact U-1) through project-related excavation would occur in the same manner as described in *Section D.10.3.5* for the proposed Sicard Street Transition Station, which were determined to be potentially significant. This impact can be mitigated to less than significant (Class II) with implementation of Mitigation Measure U-1A.

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative primarily

consists of minor modifications to existing structures, no impacts to public services or utilities are anticipated.

Comparison to the Proposed Project

Public service and utility impacts resulting from the construction of SDG&E's Sicard Street Transition Cable Pole and Harbor Bridge Attachment design options would be substantially the same as those identified for the Proposed Project.

Project impacts due to utility conflicts and disruptions (Impact U-1) and public service emergency response disruption (Impact U-2) would be slightly increased under the Pacific Highway Bridge Attachment due to the increased excavation required with City of San Diego roadways. However, impacts U-1 and U-2 would remain less than significant after mitigation (Class II).

Project impacts due to utility conflicts and disruptions (Impact U-1) would be reduced under the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative from (Class II) potentially significant requiring mitigation, to less than significant (Class III) and therefore, no mitigation is required.

D.10.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.10.1 describes the public service and utility setting along the Proposed Project alignment. Because this alternative would occur in the same area as the Proposed Project, the existing public service and utility conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Utility disruption impacts under the Transmission System Alternative would be substantially the same as those identified for the Proposed Project. Utilities such as water, sewer, and natural gas pipelines, petroleum product pipelines, and electric and cables lines, may be buried in the existing utility easement between the Miguel Substation and South Bay Power Plant. Excavation for new foundations of the poles and transmission structures would be required for construction of the new 230 kV transmission line, similar to the Proposed Project, as well as construction of the 138 kV transmission line proposed as part of this alternative. With implementation of APM No. 66, SDG&E would contact Underground Service Alert and manually probe for existing

buried utilities in the project corridor prior to any powered-equipment drilling or excavation. After probing the corridor for existing utilities, exact placement of the transmission structure and pole foundations would be determined so that placement of new structures would not conflict with other co-located utilities. With incorporation of this standard construction practice, conflicts with existing utilities are expected to be less than significant (Class III) and therefore, no further mitigation is required.

Potential electrical service interruptions during construction may occur in the same manner as the Proposed Project (see Section D.3.7). While service disruptions would be expected to be temporary in nature, these disruptions would be considered potentially significant. Implementation of Mitigation Measure U-1a would mitigate impacts associated with utility disruption (Impact U-1) to less than significant levels (Class II).

Public service disruptions to fire and other emergency service providers are unlikely to occur. The potential for fire hazard due to construction and operation would not be significant and respective fire departments are prepared to respond to accidents in their jurisdictions. In addition, APM 19 which includes standard construction practices to minimize fire hazards would reduce potential fire hazards during construction. Impacts associated with increased demands for schools, fire or police protection are not anticipated as no increase in the local population is expected for construction or operation. Therefore less than significant impacts requiring no mitigation (Class III) to public services (Impact U-2) are anticipated under this alternative.

Impacts associated with utilities and public services required during construction under this alternative would be substantially the same as those identified for the Proposed Project. Water used for dust suppression would not affect regional water supplies and would be temporary and short-term. This alternative will generate a limited amount of solid waste during construction. Construction of this alternative would involve the removal of 46 existing lattice transmission structures. The old structures would be dismantled and would be hauled away by truck. After the structures have been removed, the existing concrete foundations would be jack-hammered to below grade, and debris would be removed. Demolition and construction debris would be recycled to the greatest extent feasible. Materials not recycled would be disposed of at permitted landfills. No regular solid waste disposal is proposed as part of this alternative. Excavated soil would be disposed of appropriately in local landfills. Due to the number and capacity of landfills serving the project area, capacity for materials generated during construction is expected to be available. Therefore, less than significant impacts requiring no mitigation (Class III) to utilities and public services (Impact U-3) would occur under this alternative.

Comparison to the Proposed Project

Public service and utility impacts resulting from the construction of the Transmission System Alternative would be substantially the same as those identified for the Proposed Project. Project impacts due to utility conflicts and disruptions (Impact U-1) would be similar to the Proposed Project and would remain less than significant after mitigation (Class II). Project impacts due to public service emergency response disruptions (Impact U-2) and demands on public utilities (Impact U-3) would be similar to the Proposed Project and would be less than significant requiring no mitigation (Class III).

D.10.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the no Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.10.3* for new transmission and generation, but could vary depending on length of transmission line and location pursued.

D.10.5 Mitigation Monitoring, Compliance, and Reporting Table

Table D.10-5 shows the mitigation monitoring, compliance, and reporting program for public services and utilities. The CPUC is responsible for ensuring compliance with the Mitigation Monitoring, Compliance and Reporting Program for public services and utilities. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the OMPPA Transmission Project are listed. *Table D.12-5* indicates whether the measure is applicant-proposed or agency-recommended or combination. As indicated in *Table D.12-5*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

	TABLE D.10-5 MITIGATION MONITORING PROGRAM – PUBLIC SERVICES AND UTILITIES								
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
U-1	Utility System Disruptions		66	Contact Underground Service Alert. Underground Service Alert would be notified a minimum of 48 hours in advance of earth-disturbing activities in order to identify buried utilities.	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	CPUC to verify to ensure that existing underground utilities are protected from disturbance during construction.	Prior to construction in all work areas requiring excavation.		
		U-1a		Notification of Utility Service Interruption. Prior to construction in which a utility service interruption is known to be unavoidable, the Applicant shall notify members of the public affected by the planned outage by mail of the impending interruption, and shall post flyers informing the public of service interruption in neighborhoods affected by the planned outage. Copies of the notices and dates shall be provided to the CPUC at the time the notices are distributed to the public.	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	CPUC to review notices prior to posting to ensure that utility system disruption impacts are minimized.	Prior to and during construction in all work areas.		
		U-1b		 During project design, SDG&E shall coordinate with each jurisdiction affected by the underground cable to determine the exact location for placement of the cable to avoid conflicts with planned and proposed utility projects and any relocation of existing utilities occurring within the direct vicinity of the project. Coordination with the following jurisdictional departments shall occur in conjunction with final design of the underground cable portion of the project: City of San Diego Development Services Center City Redevelopment Corporation Documentation of coordinating efforts and local jurisdiction approval of final design plans for the underground cable portion of the project shall be 	SDG&E to submit final design plans to the City of San Diego and City of Chula Vista for review and comment.	CPUC to verify local jurisdiction review and incorporation of comments to ensure that underground construction avoids conflicts with planned/ proposed utility projects.	Prior to construction in all areas proposed for underground cable.		

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

SDG&E OMPPA Transmission Project D.10 PUBLIC SERVICE AND UTILITIES

		MIT	IGATIO	TABLE D.10- N MONITORING PROGRAM – PU		AND UTILITIES		
No.	Impact	ММ	APM #s Mitigation Measure/Applicant Proposed Measure		Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
				provided to the CPUC prior to the start of construction activities.				
		U-1c		 Protection of Underground Utilities. Prior to construction of the underground transmission line, the Applicant shall submit to the CPUC written documentation, including evidence of review by the appropriate jurisdictions, including the following: Construction plans designed to protect existing utilities and showing the dimensions and location of the finalized alignment; Records that the Applicant provided the plans to affected jurisdiction for review, revision and final approval; Evidence that the project meets all necessary local requirements; Evidence of compliance with design standards; Copies of any necessary permits, agreements, or condition of approval; Records of any discretionary decisions made by the appropriate agencies. 	SDG&E to submit final design plans to the City of San Diego and City of Chula Vista for review and comment.	CPUC to verify local jurisdiction review and incorporation of comments to ensure that existing underground utilities are protected from disturbance during construction.	Prior to construction in all areas where underground cable will be installed.	
		U-1d		Utilities Protection Against Corrosion. SDG&E shall evaluate the potential for the underground transmission line to increase corrosion on existing pipelines. If this potential is determined to exist, SDG&E shall be responsible for installation of the required cathodic protection systems that would eliminate this risk. A letter documenting these consultations and their results, including concurrence by the affected jurisdiction(s) and other companies, shall be provided to the CPUC prior to the start of construction.	SDG&E to submit final design plans to the City of San Diego and City of Chula Vista for review and comment.	CPUC to verify local jurisdiction review and incorporation of comments to ensure that transmission cable does not cause corrosion in nearby existing pipes.	Prior to construction in all areas where underground cable will be installed.	

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

	TABLE D.10-5 MITIGATION MONITORING PROGRAM – PUBLIC SERVICES AND UTILITIES							
No.	Impact	ММ	APM #s	Mitigation Measure/Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location	
U-2	Public service system disruptions.		19	Wildfires shall be prevented or minimized by exercising care when operating utility vehicles within the ROW and access roads and by not parking vehicles on or in close proximity to dry vegetation where hot catalytic converters can ignite a fire. In times of high fire hazard, it may be necessary for construction vehicles to carry water and shovels or fire extinguishers. Fire protective mats or shields would be used during grinding or welding to prevent or minimize the potential for fire.	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	CPUC to verify in order to minimize fire hazards during construction.	During construction from Sycamore Canyon to Fanita and Miguel to South Bay Power Plant.	

Applicant Proposed Measure (APM) – As part of project design and in order to avoid certain environmental impacts, SDG&E has included design features (e.g., APMs) in the project design. The APMs are considered part of the project design, but project approval is contingent upon SDG&E's adherence to all aspects of the Proposed Project as described in this document, including project description, APM and mitigation measures (MM) proposed by the CPUC.

D.10.6 References

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D.11 POPULATION AND HOUSING

Sections D.11.1 and D.11.2 describe the environmental and regulatory population and housing setting for the OMPPA Transmission Project, respectively. Section D.11.3 includes analysis and discussion of population and housing impacts resulting from the OMPPA Transmission Project, while Section D.11.4 presents impact analysis for the alternatives. Section D.11.5 provides information on mitigation monitoring and reporting.

D.11.1 Environmental Setting for the Proposed Project

This section presents comprehensive baseline population, housing, and employment data. As illustrated in *Figures B-1* and *B-2* within *Section B, Project Description*, the study area for the OMPPA Transmission Project includes the County of San Diego, with portions of the OMPPA Transmission Project ROW located within the Cities of San Diego, Chula Vista, National City, unincorporated areas of San Diego County, and MCAS Miramar property. Regional, local, and site-specific socioeconomic information is presented in *Sections D.11.1.1* through *D.11.1.3*. Current demographic data are provided for the Year 2000 U.S. Census. Estimates of population, housing, and employment are prepared annually through joint effort of the City of San Diego and the San Diego Association of Governments (SANDAG) for jurisdictions, subregional areas, and major statistical areas. The local population and housing forecasts were obtained from SANDAG. SANDAG Board of Directors accepted this forecast in October 2002 for distribution, review, and use in planning and other studies. The employment and labor force data were obtained from the U.S. Census Bureau.

D.11.1.1 Demographic Characteristics

As indicated in *Table D.11-1*, the U.S. Census year 2000 population of San Diego County was 2,813,833 residents. During the period between 2000 and 2030, the population of San Diego County is estimated to increase by approximately 37 percent, resulting in a 2030 population of approximately 3,855,085 residents. In comparison, the year 2000 population of the City of San Diego was 1,223,400 residents, which accounts for 43.5 percent of the total San Diego County population. Year 2030 population projections for the City of San Diego expect the population to increase to 1,656,820 residents, which is an increase of 35 percent. Unincorporated portions of San Diego County in 2000 contained 442,919 residents, which accounts for 15.7 percent of the total San Diego County population. Year 2030 population. Year 2030 population projections for the unincorporated section of San Diego County expect the population to increase to 682,791, which is an increase of 54 percent. The City of National City contained 54,260 residents in 2000, which accounts for 1.9 percent of the total San Diego County population to increase to 62,837, which is an increase of 16 percent. The year 2000 population for the City of Chula Vista was 173,556 residents, which

accounts for 6.2 percent of the total San Diego County population. As indicated in *Table D.11-1*, the highest percentage increase in population for the study area is projected for the City of Chula Vista, which is expected to experience a 60 percent growth rate resulting in a year 2030 population of 278,183 residents.

TABLE D.11-1POPULATION CHARACTERISTICS

Location	2000 Population	2010 Population	2020 Population	2030 Population	2000-2030 Population Change	2000-2030 Percent Population Change
Entire San Diego County	2,813,833	3,211,721	3,528,605	3,855,085	1,041,252	37%
City of San Diego	1,223,400	1,370,328	1,507,794	1,656,820	433,420	35%
City of Chula Vista	173,556	247,885	268,970	278,183	104,627	60%
National City	54,260	56,095	59,019	62,837	8,577	16%
Unincorporated San Diego County	442,919	496,623	581,566	682,791	239,872	54%

Source: SANDAG, December 2003

Table D.11-2 provides the total minority population and minority percentages for the State and the study area for the year 2000. It also provides information on populations living below the poverty level for the State and the study area for the year 2000.

TABLE D.11-2DEMOGRAPHIC PROFILE FOR THE PROJECT STUDY AREA

Location	Total Population	Total Non- Hispanic Origin Population	Percent Non- Hispanic Origin Population	Total Individuals Below Poverty Level*	Percent Total Individuals Below Poverty Level**
Entire San Diego County	2,813,833	2,062,868	73%	342,877	13%
City of San Diego	1,223,400	912,648	75%	173,519	15%
City of Chula Vista	173,556	87,483	50%	18,727	11%
National City	54,260	22,207	41%	11,247	22%
Unincorporated San Diego County	442,919	356,322	80%	37,705	9%

* Population for whom poverty status is determined may not include the total population data set.

** Percent total individuals below poverty level is based on the data set for whom poverty status is determined. Assumption: Based on the 2000 Census

Source: SANDAG, June 2003

D.11.1.2 Housing Characteristics

As indicated in *Table D.11-3*, the 2000 U.S. Census showed that there were 1,040,149 housing units within San Diego County. Of the total number of housing units within San Diego County, 4 percent were vacant. During the period between 2000 and 2030, the number of housing units within San Diego County is estimated to increase by approximately 30 percent, resulting in 1,354,088 housing units by the year 2030. In comparison, the City of San Diego contained 469,689 housing units in 2000, which accounts for 45.2 percent of the total San Diego County housing units. Year 2030 projections for the City of San Diego expect the number of housing units to total 604,399, which is an increase of 29 percent. The City of National City contained 15,422 housing units in 2000, which accounts for 1.5 percent of the total housing units contained in San Diego County. Year 2030 projections for the City of National City expect the number of housing units to increase to 17,029 by the year 2030, which is an increase of 10 percent. The City of Chula Vista contained 59,495 housing units in 2000, which accounts for 5.7 percent of the total housing units contained in San Diego County. Year 2030 projections for the City of Chula Vista expect the number of housing units to increase to 87,537 by the year 2030, which is an increase of 47 percent. Unincorporated areas contained 152,947 housing units in year 2000, which accounts for 14.7 percent of the total housing units contained in San Diego County. As indicated below, the unincorporated section of San Diego County is expected to receive the largest share of the County's new housing units for the study area projected for the year 2030, resulting in a year 2030 total of 236,869 housing units.

TABLE D.11-3 HOUSING CHARACTERISTICS						
Location	2000 Housing Units	2010 Housing Units	2020 Housing Units	2030 Housing Units	2000-2030 Housing Units Change	2000-2030 Percent Housing Units Change
Entire San Diego County	1,040,149	1,166,094	1,254,647	1,354,088	313,939	30%
Vacancy Rate	4%					
City of San Diego	469,689	519,996	558,075	604,399	134,710	29%
Vacancy Rate	4%					
City of Chula Vista	59,495	81,465	86,403	87,537	28,042	47%
Vacancy Rate	3%					
City of National City	15,422	15,724	16,231	17,029	1,607	10%
Vacancy Rate	3%					
Unincorporated San Diego County	152,947	167,849	198,037	236,869	83,922	55%
Vacancy Rate	6%					

Sources: SANDAG, June 2003; SANDAG, December 2003;

D.11.1.3 Employment Characteristics

Table D.11-4 provides employment data for the jurisdictions traversed by the OMPPA Transmission Project for the year 2000. To examine labor force characteristics, it is assumed that most workers would commute one to two hours to the OMPPA Transmission Project area. Counties within this one- to two-hour commute range include San Diego County, Orange County, and Imperial County. The majority of the labor force that would be involved in construction of the OMPPA Transmission Project is listed in the United States Census Bureau statistics as "Construction Industry" employees. *Table D.11-4* provides the total number of "Construction Industry" workers within the study area for the year 2000.

TABLE D.11-4EMPLOYMENT AND LABOR FORCE CHARACTERISTICS

				Civilian				
Location	Total Labor Force*	Armed Forces	Total Employed	Total Unemployed	Construction Industry Employees	Percent Construction Industry Employees (%)	Unemployment Rate (%) **	
Entire San Diego County	1,399,807	91,398	1,232,739	75,670	81,509	7.0%	5.8%	
Entire Orange County	1,411,901	2,004	1,338,838	71,059	81,822	6.1%	5.0%	
Entire Imperial County	50,788	321	44,092	6,375	2,342	5.3%	12.6%	
City of San Diego	626,073	37,746	553,376	34,951	26,441	5.0%	5.9%	
City of Chula Vista	79,763	3,725	71,031	5,007	4,417	6.0%	6.6%	
City of National City	22,586	3,012	17,581	1,993	1,400	8.0%	10.2%	
Unincorporated San Diego County	215,427	25,987	180,036	9,404	17,834	10%	5.0%	

* Civilian labor force plus members of the U.S. Armed Forces

** The number of unemployed people divided by the sum of unemployed plus employed people Assumption: Based on 2000 Census

Source: SANDAG, June 2003; U.S. Census Bureau 2000

D.11.2 Applicable Regulations, Plans, and Standards

The following section presents the State, regional, and local environmental justice regulations, plans, and standards that pertain to the OMPPA Transmission Project and alternatives. There are no federal regulations, plans, and or standards related to population and housing that are directly applicable to the OMPPA Transmission Project.

D.11.2.1 State

Under CEQA Guidelines, (California Code of Regulation Title 14, Chapter 3) Section 15131 states the following:

- Economic or social effects of a project shall not be treated as significant effects on the environment.
- Economic or social factors of a project may be used to determine the significance of physical changes caused by the project.
- Economic, social, and particularly housing factors shall be considered by public agencies together with technological environmental factors in deciding whether changes in a project are feasible to reduce and or avoid the significant effects on the environment.

D.11.2.2 Regional and Local

The SANDAG *Regional Comprehensive Plan* (RCP) is the long-term planning framework for the San Diego Region. The RCP is intended to provide a broad context in which local and regional decision can be made to foster a healthy environment, a thriving economy, and a high quality of life for all residents.

The Social Equity and Environmental Justice chapter of the RCP addresses the concept of social equity in the San Diego region with a planning vision to provide all residents with access to affordable and safe housing, quality jobs, adequate infrastructure, and quality education. The RCP recommends that industries and high-traffic corridors be sited in a way to minimize potential impacts of poor air quality on homes, schools, hospitals, and other land uses where people congregate, and recommends that programs be implemented to ensure that low income and minority populations are not disproportionately negatively affected. The RCP policy direction ensures that in the future, all communities move forward as the region moves forward because many communities in San Diego have traditionally been left behind or excluded from the planning and development process, including low income and minority communities.

The RCP identifies the severe shortage of housing in the San Diego region, and discusses that many lower income households, which make up 38 percent of the San Diego region population, need some form of subsidy to afford housing. The Housing chapter of the RCP provides policy direction toward development of housing in the San Diego region to minimize projected interregional and long distance commuting, and to rezone appropriate sites to allow for redevelopment or higher density development.

D.11.3 Environmental Impacts and Mitigation Measures

D.11.3.1 Definition and Use of Significance Criteria

Significant impacts to population and housing would occur if any of the following would result:

- The Proposed Project would 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);
- The Proposed Project would induce substantial population growth or the need for additional housing in an area through the required labor force; or
- The Proposed Project would displace substantial numbers of existing housing or persons necessitating the construction of replacement housing elsewhere.

D.11.3.2 Applicant Proposed Measures

The Applicant did not propose any measures to reduce potential population and housing impacts associated with the construction and operation of the Proposed Project.

D.11.3.3 230 kV Overhead Transmission Line

Impact S-1: Project Related Population Growth

Construction activities resulting from Project implementation would be considered short-term and temporary. The length of time required to construct the overhead segment of the proposed project is approximately 18 months and would utilize approximately 40 construction personnel per day at its peak (refer to *Section B.3.6*, Construction Employment and Personnel). As shown in *Table D.11-4*, a strong labor force (165,673 persons in the construction industry) exists within a one to two-hour commute of the project. As such, it is expected that construction personnel needed to build the Proposed Project would come from the local area. Therefore, there would be no population growth due to project construction.

As discussed in *Section A.2, Purpose and Need*, the OMPPA Transmission Project is proposed as the primary infrastructure required to connect Calpine's OMGP to SDG&E's transmission system. The OMGP was approved by the CEC in April 2001. As the OMPPA Transmission Project would be supporting the approved OMGP rather than facilitating future energy development, it is not expected that the OMPPA Transmission Project itself would increase regional population. Therefore, there would be no population growth related impacts. See *Section F.1, Growth Inducement*, for further discussion.

Impact S-2: Induced Demand for Housing

Because few, if any, construction workers are expected to permanently relocate to the area as a result of construction activities associated with the OMPPA Transmission Project (see Impact S-1), no new demand for housing would occur. Temporary accommodations could be needed during construction, but with numerous hotels and motels in the area, impacts are expected to be less than significant, requiring no mitigation (Class III).

Impact S-3: Displacement of People or Existing Housing

While a majority of the overhead transmission line portion of the OMPPA Transmission Project occurs through residential and urban development, all project components associated with the proposed overhead transmission line would occur within the existing SDG&E ROW and would not require the removal or relocation of any residential units or business uses. Therefore, the overhead transmission line portion of the OMPPA Transmission Project would not result in any displacement impacts.

D.11.3.4 230 kV Underground Cable

Approximately ten miles of new underground 230 kV underground transmission line would be installed from the South Bay Power Plant to the Sweetwater River Transition Area and from the Sicard Street Transition Area to Old Town Substation. The length of time required for construction of the underground segment of the OMPPA Transmission Project is approximately 10 months and would require an estimated total of 40 construction workers per day at its peak.

As discussed in *Section D.11.3.3*, Impact S-1, the Applicant is expected to utilize local labor force that would be more than adequate to supply workers for the underground portion of the OMPPA Transmission Project. Therefore, no impacts associated with population growth due to induced labor demand (Impact S-1) would occur.

As discussed in *Section D.11.3.3*, no new housing would be needed for the OMPPA Transmission Project, and no new competition for existing housing is likely to occur. Therefore,

impacts associated with induced housing demand (Impact S-2) would be less than significant, requiring no mitigation (Class III).

The proposed underground cable portion of the project is proposed primarily within SDG&E's existing utility ROW and within City of San Diego streets and therefore would not require the removal or relocation of any residential units or business uses (Impact S-3).

D.11.3.5 Transition Station

Construction of the proposed transition station would involve similar construction methods as those described for the new overhead line in *Section D.11.3.3*. Additionally, as the 0.1 acre transition station is proposed in an existing parking lot, no residences or business would be displaced. As such no people or housing would be displaced, no additional competition for existing housing would result from the project, and no new regional growth is expected due to displacement of the proposed transition.

D.11.3.6 Modifications to the Sycamore Canyon, Miguel and Old Town Substations

Construction of modifications at the Sycamore Canyon, Miguel, and Old Town Substations would take place within the developed footprint of each station, and would involve similar construction crews and population and housing impacts as those described for the new overhead line in *Section D.11.3.3*. Similar to the new overhead line, operation of the modified substations would not require any additional workers for operations or maintenance. As such no people or housing would be displaced, no additional competition for existing housing would result and no new regional growth is expected due to the proposed substation modifications.

D.11.4 Project Alternatives

D.11.4.1 SDG&E Design Option Alternatives (Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.11.1 describes the population and housing characteristics of the region. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing population and housing conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project. Any additional temporary workers that would be required to conduct this additional trenching would be offset by not needing temporary workers to complete directional drilling under the San Diego River as proposed. Therefore, it is expected that workers required to construct this alternative would be drawn from the local area labor force. No population growth would occur (Impact S-1), no people or housing would be displaced (Impact S-3), and no additional competition for existing housing (Impact S-2) would result from this alternative.

Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives: The population and housing impacts for these alternative design options would not be different from the Proposed Project. Localized need for short-term construction workers would occur in the same manner as the Proposed Project. Therefore, it is expected that workers required to construct this alternative would be drawn from the local area labor force. No population growth would occur (Impact S-1), no people or housing would be displaced (Impact S-3), and no additional competition for existing housing (Impact S-2) would result from this alternative.

Comparison to the Proposed Project

Population and housing impacts resulting from the construction of SDG&E's design option alternatives would not be significantly different from the Proposed Project. The need for localized short-term construction workers would occur in the same manner as the Proposed Project. Population and housing impacts (S-1 through S-3) would remain unchanged from the Proposed Project.

D.11.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.11.1 describes the population and housing characteristics of the region. Because the Transmission System Alternative would occur within the same alignment as the Proposed Project, the existing population and housing conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

The work force required to construct this alternative would be similar to one described for the Proposed Project in Section D.11.1. As such, it is anticipated that the work force needed to construct the Transmission System Alternative would come from the local San Diego area. Therefore, impacts associated with population growth (Impact S-1), induced housing demand (Impact S-2) and displacement of people or housing (Impact S-3) would be the same as the Proposed Project, which were determined to be less than significant, requiring no mitigation (Class III).

Comparison to the Proposed Project

Impacts associated with population and housing under the Transmission System Alternative would be substantially the same as those identified for the Proposed Project which we determined to be less than significant, requiring no mitigation (Class III).

D.11.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the short-term impacts due to the need for temporary construction workers described in this section would occur. However, under the no Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.11.3* for new transmission, but could vary depending on length of transmission line and location pursued. Depending on the type of generation pursued, new generation would likely require additional temporary construction workers and long-term operators. However, it is expected that given the labor force in the local region, any such impacts would be less than significant, requiring no mitigation (Class III).

D.11.5 Mitigation Monitoring, Compliance, and Reporting Table

Because impacts to population and housing would be less than significant, no applicant proposed measures or mitigation measures are necessary.

D.11.6 References

- SANDAG (San Diego Association of Governments). 2001. Regional Growth Management Strategy, Solving the San Diego Region's Housing Crisis. July 9.
- SANDAG (San Diego Association of Governments). 2003. Census 2000 Profiles accessed at: <u>http://cart.sandag.org/pw/</u>. June 12.
- SANDAG (San Diego Association of Governments). 2003. Final 2030 Cities/County Forecast accessed at: <u>http://www.sandag.cog.ca.us/resources/demographics_and_other_data/</u><u>demographics/forecasts/pdfs/JURIS_pop_du_emp.pdf</u>. December.
- SANDAG (San Diego Association of Governments). 2004. Final Regional Comprehensive Plan for the San Diego Region. July.
- SDG&E. 2004a. Proponent's Environmental Assessment (PEA) for the OMPPA Transmission Project. March.
- SDG&E. 2004k. SDG&E Otay Mesa Power Purchase Agreement Transmission Project Amended Project Description. November.
- United States Census Bureau. 2000. American FactFinder 2000 Data Set. Accessed at: <u>http://factfinder.census.gov</u>.

D.12 TRANSPORTATION AND TRAFFIC

Section *D.12.1* provides a summary of existing major study area roadways, transit and rail service, airports, and bicycle facilities. *Section D.12.2* describes the regulatory setting for transportation and traffic. *Section D.12.3* provides analysis of transportation and traffic impacts resulting from the Proposed Project. *Section D.12.4* includes an analysis of the alternatives, and *Section D.12.5* provides mitigation monitoring and reporting information.

D.12.1 Environmental Setting for the Proposed Project

The study area for this analysis includes roadways directly affected by the Proposed Project and alternatives. Existing roadway classifications are based on review of Circulation Elements found in the General Plans of the Cities of Chula Vista (1995) and National City (1996). For City of San Diego roadways, existing condition information and traffic volume data was based on the City's Traffic Engineering Machine Count Traffic Volumes (2004) and review of Community Plans of Barrio Logan (2004), Midway/Pacific Highway Corridor (2004), Old San Diego (2004) and Linda Vista (2004). Traffic volume data was also obtained from the City of Chula Traffic Engineering Department (2003), Caltrans and SANDAG. Additional information was gathered through personal communication with Cities' engineering and planning staff. Site visits were conducted for all roadways that could be directly affected by the Proposed Project.

D.12.1.1 Existing Roadway Network

Figure B-2 and *B-3* provided in *Section B, Description of the Proposed Project*, illustrate the study area roadway network that could potentially be affected by the OMPPA Transmission Project. *Table D.12-1* lists the freeways, major roadways and arterials that would be crossed by the transmission line, as well as the roadways that run parallel to the existing transmission ROW and includes general roadway classifications, number of lanes, and daily traffic volumes. Other affected roadways, including collectors, residential and local, are presented in *Table D.12-2*. The roadways that would be potentially affected by the underground construction of the OMPPA Transmission Project are identified in *Table D.12-3*.

D.12.1.2 Transit and Rail Service

Public transit services in the project area consist of the bus, trolley, and passenger train. These services are primarily provided by the Metropolitan Transit Development Board (MTDB). MTDB manages the Metropolitan Transit System (MTS) bus services and trolley routes that serve the cities of Chula Vista, National City and San Diego. Passenger rail services are provided by both Amtrak and North County Transit District (NCTD). Freight rail services also occur within the project area and are provided by San Diego & Imperial Valley Railroad (SDIV).

TABLE D.12-1 OVERHEAD CROSSINGS OF FREEWAYS, MAJOR ROADWAYS AND ARTERIALS WITHIN OMPPA TRANSMISSION PROJECT CORRIDOR

				Traffic Volume			
Roadway			Classification	Lanes	Year	Daily ¹	
Sycamore Canyon to Fanita Junction Segment							
No freeways, major roadways or	arterials would	be affected.					
Miguel Substation to South Ba	ay Power Plant	Segment					
Otay Lakes Road	30.8	Chula Vista	Prime Arterial	6	2002	29,100	
East H Street	31.8	Chula Vista	Prime Arterial	6	2000	44,530	
Telegraph Canyon Road	32.8	Chula Vista	Prime Arterial	6	2002	54,240	
I-805	33.75	Caltrans	Freeway	8	2003	141,000	
East Palomar Street	33.8	Chula Vista	Major	4	2002	7,000	
Orange Avenue	35.6	Chula Vista	Major	4	2003	19,020	
4 th Avenue	36.1	Chula Vista	Major	4	2003	11,740	
Broadway	36.6	Chula Vista	Major	4	2003	26,360	
Palomar Street	37.1	Chula Vista	Major	6	2003	34,580	
I-5	37.5	Caltrans	Freeway	8	2003	157,000	
Sweetwater River Transition A	rea to Sicard S	Street Transition Area	Segment				
I-5	41.3	National City	Freeway	8	2003	197,000	
Mile of Cars Way/24th Street	41.6	National City	Arterial	4	2001	27,200	
West 18th Street	42.0	National City	Collector	2	2001	5,000	
Civic Center Drive	42.3	National City	Collector	2	2001	6,000	
I-5	42.3	Caltrans	Freeway	8	2003	197,000	
West 8th Street	42.5	National City	Arterial	4	2001	17,700	
32 nd Street	43.8	U.S. Naval Station	Major	4	2001	23,360	
28 th Street	44.4	San Diego	Major	4	2004	16,580	

¹ Average Daily Traffic Volumes are rounded to the nearest tenth.

Source: City of Chula Vista (1995 and 2003); City of National City (1996); City of San Diego (2003 and 2004); and Caltrans (2003).

TABLE D.12-2 OVERHEAD CROSSINGS OF COLLECTOR, LOCAL AND RESIDENTIAL STREETS WITHIN OMPPA TRANSMISSION PROJECT CORRIDOR

Roadway	Milepost	Jurisdiction	Classification	Lanes
Sycamore Canyon to Fanita Junction S	Segment		'	
No local roadways would be affected				
Miguel Substation to South Bay Power	Plant Area Segment			
Mt. Miguel Road	28.4	Chula Vista	Local	4
Proctor Valley Road	29.3	Chula Vista	Local	2
Corral Canyon Road	29.8	Chula Vista	Class II Collector	2
Cumbre View	30.4	Chula Vista	Local	2
Canyon Drive	30.6	Chula Vista	Local	2
Ridgeback Road	30.85	Chula Vista	Class II Collector	2
Buena Vista Way	31.2	Chula Vista	Class II Collector	2
Paseo Ranchero	31.5	Chula Vista	Class I Collector	4
Camino del Sol	31.9	Chula Vista	Local	2
East J Street	32.3	Chula Vista	Class I Collector	4
East Naples Street	33.05	Chula Vista	Local	2
Oleander Avenue	33.4	Chula Vista	Class II Collector	2
Foxboro Avenue	33.3	Chula Vista	Local	2
Raven Avenue	33.6	Chula Vista	Local	2
Nacion Avenue	33.9	Chula Vista	Class III Collector	2
Melrose Avenue	34.15	Chula Vista	Class II Collector	2
Rienstra Street	34.5	Chula Vista	Local	2
Max Avenue	34.6	Chula Vista	Local	2
Hilltop Drive	35.05	Chula Vista	Class I Collector	4
2 nd Avenue	35.5	Chula Vista	Class III Collector	2
3rd Avenue	35.9	Chula Vista	Class I Collector	4
Industrial Boulevard	37.2	Chula Vista	Class II Collector	2
Bay Boulevard	37.6	Chula Vista	Class II Collector	2
Sweetwater River Transition Area to Si	card Street Transitio	n Area Segment	ч	
Schley Street	44.6	San Diego	Residential	2

TABLE D.12-3

ROADWAYS WITHIN UNDERGROUND PORTION OF OMPPA TRANSMISSION PROJECT CORRIDOR

Roadway	Milepost	Jurisdiction	Classification	Lanes	Year	Average Daily Traffic ¹
South Bay Power Plant to No freeways, roadways o				ving cross	ings:	
J Street	38.6	Chula Vista	Major	4	2001	5,350
H Street	39.3	Chula Vista	Major	4		NA
G Street	39.5	Chula Vista	Major	4		NA
F Street/Lagoon Drive	39.7	Chula Vista	Class 1 Collector	4		NA
E Street/Marina Parkway	40.1	Chula Vista	Major	4		NA
Sicard Street to Old Town	n Substation					
Sicard Street	44.8	San Diego	Residential	2		NA
Harbor Drive	44.8 to 47.0	San Diego	Major	6	2003	10,790 to 18,770
Sampson Street	44.9	San Diego	Major	2	2003	3,110
Crosby Street/Cesar Chavez	45.3	San Diego	Major	2	2003	8,870
1 st Avenue	46.6	San Diego		3	2002	6,780
Front Street	46.7	San Diego		3	1997	2,300
Kettner Boulevard	46.9	San Diego		4	1999	3,000
Pacific Highway	47.0 to 51.0	San Diego	Primary Arterial/ Expressway	4 to 6	2004	16,600 to 57,220
Broadway	47.3	San Diego		4	2001	6,420
Ash Street	47.6	San Diego		4	2003	10,490
Grape Street	47.9	San Diego		3	2002	22,140
Hawthorn Street	48.1	San Diego		3	2003	18,360
Laurel Street	48.3	San Diego	Major	5	2003	34,970
Washington Street	49.3	San Diego	Major	6	2003	9,900
Taylor Street	50.9	San Diego	Major	4	2003	21,050
Morena Boulevard	51.5	San Diego	Major	4	2003	40,400
Linda Vista Road	51.5 to 51.9	San Diego	Major	4	2003	22,230
Napa Street	51.6	San Diego	Major	4	2003	18,280
Mildred	51.9 to 52.0	San Diego	Residential	2		
Lauretta	52.05	San Diego	Residential	2		
Riley	52.1	San Diego	Residential	2		
Benecia	52.0 to 52.2	San Diego	Residential	2		

¹ Average Daily Traffic Volumes are rounded to the nearest tenth.

Source: City of Chula Vista (1995 and 2003); City of National City (1996); City of San Diego (2003 and 2004); and Caltrans (2003).

Descriptions of these transit and rail service that may be affected by the proposed OMPPA Transmission Project are provided below.

<u>Bus</u>

MTS along with contract transit providers, including Chula Vista Transit, National City Transit, and San Diego Transit, operate the bus transit system in the project area. The OMPPA Transmission Project would span bus routes in the cities of Chula Vista and National City. *Table D.12-4* identifies the bus routes that would be spanned by the proposed OMPPA Transmission Project.

TABLE D.12-4 OVERHEAD CROSSINGS OF BUS ROUTES WITHIN THE OMPPA TRANSMISSION PROJECT CORRIDOR

Route Number	Milepost	Jurisdiction	Location
711	29.8	Chula Vista	Corral Canyon Road
705	30.8	Chula Vista	Otay Lakes Road
704X/709/709X/707	31.8	Chula Vista	East H Street
704/712	33.05	Chula Vista	East Naples
703	33.4	Chula Vista	Oleander Avenue
701	35.05	Chula Vista	Hilltop Drive
929	35.9	Chula Vista	Third Avenue
932	36.6	Chula Vista	Broadway
701/702/703/712	37.1	Chula Vista	Palomar Street and Industrial Blvd. Transit Center
955	42.3	National City	Civic Center Drive and I-5
6	43.8, 44.4	U.S. Naval Station	32 nd Street and Harbor Dr.; 28 th Street and Harbor Dr.

Source: MTDB 2004; City of San Diego 2004

From South Bay Power Plant to the Sweetwater River Transition Area and from the Sicard Street Transition Area to the Old Town Substation, the OMPPA Transmission Project would be located underground primarily within SDG&E's ROW and within City of San Diego streets. Several of the affected roadways are used by MTS and San Diego Transit Corporation buses. *Table D.12-5* identifies bus routes within the proposed underground corridor and lists the bus stop, if applicable, along the route.

TABLE D.12-5 BUS ROUTES WITHIN UNDERGROUND SEGMENT OF OMPPA TRANSMISSION PROJECT CORRIDOR

Route Number	Milepost	Location	Bus Stop
706A	38.6, 39.7	Chula Vista	Marina Parkway, F Street
7	39.5	Pacific Highway between Broadway and Harbor Drive	G Street
34	47.3 to 50.9	Pacific Highway between Broadway and Rosecrans Street	None Affected
4, 20, 901, 902, 903, 929	47.6	Pacific Highway between Ash Street and Broadway	None Affected
2	47.9	Pacific Highway between Broadway and Grape Street	None Affected
850, 860	47.9 to 48.1	Pacific Highway between Grape Street and Hawthorne Street	Grape Street, Hawthorne Street
40, 70	48.3	Pacific Highway between Laurel Street and Ash Street	Laurel Street
908	49.3 to 50.1	Pacific Highway between Washington Street and Enterprise	None Affected
5, 6, 9, 26, 28, 34, 35, 44, 81, 908	50.8	Pacific Highway at the Old Town Transit Center	Pacific Highway at Old Town Transit Center

Source: MTDB 2004

<u>Trolley</u>

San Diego Trolley, Inc. (SDTI), a subsidiary corporation of MTDB, operates two trolley routes that serve the San Diego region. The Orange Line extends from the Mission Gorge area in the eastern portion of the City of San Diego west through La Mesa and Lemon Grove and continues ultimately to the downtown area of San Diego. The proposed OMPPA Transmission Project would not cross any portion of the Orange Line.

The Blue Line provides service between Mission San Diego in the community of Serra Mesa to San Ysidro/Mexico border. The Blue Line includes stops in Mission Valley, Old Town, downtown San Diego and the convention center along Harbor Drive. *Table D.12-6* identifies the portions of the Blue Line trolley route that cross the proposed OMPPA Transmission Project.

TABLE D.12-6TROLLEY ROUTES WITHIN OMPPA TRANSMISSION PROJECT AREA

Route	Milepost	Jurisdiction	Location							
Overhead Cro	Overhead Crossings									
Blue Line	37.2	Chula Vista	Palomar Street and Industrial Blvd. Transit Center							
Blue Line	41.3	National City	30th Street							
Blue Line	41.6	National City	24th Street and Wilson Avenue Transit Center							
Blue Line	42.3	National City	Civic Center Drive							
Underground	Crossings									
Blue Line	44.8	San Diego	Sicard Street and Main Street							
Blue Line	51.1	San Diego	Gaines Street							
Blue Line	51.5	San Diego	Morena Blvd. and Linda Vista Road							

Source: MTDB Regional Transit Map 2003

Rail

NCTD and Amtrak provide passenger rail service in the OMPPA Transmission Project area. Both these rail service providers use the SDIV tracks, which the OMPPA Transmission Project corridor crosses under at MP 51.5, located in the Historic Old Town District.

Freight service in San Diego is provided by the San Diego & Arizona Eastern Railway (SD&AE), a subsidiary of MTDB which operates the SDVI railroad tracks, and Burlington Northern Santa Fe Railroad (BNSF). As a result of a joint use agreement, the SDIV freight trains operate when the trolleys are not in service (MTDB 2003). The proposed OMPPA Transmission Project corridor crosses over the railroad racks at MP 37.6, 41.0, and 42.3 and continues parallel with the railroad tracks until it reaches Historic Old Town District (MP 51.0). The transmission route crosses underneath the tracks at MP 51.1 near Gaines Street

D.12.1.3 Air Transportation

Two airports are located in the OMPPA Transmission Project area: U.S. Marine Corps Air Station Miramar and the San Diego International Airport. U.S. Marine Corps Air Station Miramar is located near the Sycamore Substation (MP 0.0) and services military aircraft. San Diego International Airport is located in near MP 48.5 and provides international and domestic flights. No private airports are in the project vicinity.

D.12.1.4 Bicycle Facilities

A number of roadways located within the proposed OMPPA Transmission Project corridor include a designated bicycle lane. The proposed OMPPA Transmission Project would span these bicycle routes where overhead transmission lines are proposed to be constructed. The underground portion of the OMPPA Transmission Project would be located within several City of San Diego streets that support designated Class II bikeways (San Diego 2004). Class II bikeways consists of five foot wide lanes that are striped on the outside of the roadway and identified with signs and pavement markings.

Table D.12-7 lists the bicycle routes within the project area that would be potentially affected by both the overhead and underground portions of the OMPPA Transmission Project. These bicycle routes were identified by review of General Plans for the cities of Chula Vista and National City and Community Plans prepared for Barrio Logan, Midway/Pacific Highway Corridor, Old San Diego, and Linda Vista.

Milepost	Jurisdiction	Location							
Overhead Transn	verhead Transmission Line								
29.8	Chula Vista	Corral Canyon							
30.8	Chula Vista	Otay Lakes Road							
30.85	Chula Vista	Ridgeback Road							
31.2	Chula Vista	Buena Vista Way							
31.5	Chula Vista	Paseo Ranchero							
31.8	Chula Vista	East H Street							
31.2	Chula Vista	East J Street							
32.8	Chula Vista	Telegraph Canyon Road							
33.05	Chula Vista	Naples Street							
33.4	Chula Vista	Oleander Avenue							
33.8	Chula Vista	Palomar Street							
31.15	Chula Vista	Melrose Avenue							
35.05	Chula Vista	Hilltop Drive							
35.6	Chula Vista	Orange Avenue							
35.9	Chula Vista	Third Avenue							
36.1	Chula Vista	Fourth Avenue							
37.6	Chula Vista	Bay Boulevard							
40.1	Chula Vista	E Street/Marina Pkwy							
40.9	National City	Bikepath along Sweetwater River							
41.6	National City	24th Street							

TABLE D.12-7BICYCLE ROUTES WITHIN OMPPA TRANSMISSION PROJECT AREA

TABLE D.12-7 BICYCLE ROUTES WITHIN OMPPA TRANSMISSION PROJECT AREA							
Milepost	Jurisdiction	Location					
Underground Trar	ismission Line						
44.8 to 47.0	San Diego	Harbor Drive					
47.0 to 51.0	San Diego	Pacific Highway					
50.9	San Diego	Taylor Street					
51.5 to 51.9	San Diego	Linda Vista Road					

Source: SANDAG 2004; City of San Diego 2004

D.12.1.5 Planned Roadway Improvement Projects

Construction of the proposed OMPPA Transmission Project would take place in mid-2005 to June 2007. During this time period, other roadway improvements may occur simultaneously. In order to identify potential conflicts with planned roadway improvements, the Regional Transportation Improvement Program (RTIP) prepared by SANDAG, a list of major construction projects by Caltrans, Capital Improvement Programs of the affected cities and county, and other planning documents such as the North Embarcadero Visionary Plan (1998) and Port Master Plan (2004) were reviewed. In addition, information was obtained from personal communication with traffic engineers and planners at the cities of San Diego, Chula Vista and National City and Caltrans.

A brief description of planned roadway improvements that may be potentially affected by the OMPPA Transmission Project, as well as the underground portion is provided below.

Caltrans

Both I-805 and I-5 are primarily north-south trending freeways that are maintained by Caltrans. The OMPPA Transmission Project crosses I-805 at Palomar Street (MP 33.75) in Chula Vista. Caltrans, in collaboration with the City of Chula Vista, is currently in the planning stages for improvements to the I-805 and Palomar Street interchange. Construction is anticipated to be completed in 2006/2007 (City of Chula Vista 2004). The proposed transmission corridor crosses I-5 three times: at Naples Street (MP 37.5), at 30th Street in National City (MP 41.3) and Civic Center Drive (MP 42.3). I-5 is proposed to be widened from 24th Street/Mile of Cars Way to Harbor Drive to accommodate two additional freeway lanes (SANDAG 2004a). This freeway widening project is in the design phase.

Caltrans is currently under construction of SR-125, a 12 mile highway extending from SR 905 near the International Border to SR 54 near the Sweetwater Reservoir. Initially, this new highway would operate as a toll road, with an anticipated opening by 2006. The overhead portion of the OMPPA Transmission Project would cross over SR 125 at where the new highway would intersect Mount Miguel Road (MP 28.4) and Proctor Valley Road (MP29.3).

City of Chula Vista

In the City of Chula Vista, the OMPPA Transmission Project would cross over 36 roadways. Based on review of the City's Capital Improvement Program for traffic controls, major roads and local roads, improvement projects are planned to occur on two of these roadways. In addition to the listed projects below, the City has an ongoing Pavement Rehabilitation Program, which resurfaces deteriorating roadways throughout the City of Chula Vista, and an ongoing sidewalk rehabilitation program that repairs deteriorated curbs, gutters, sidewalks and driveways.

Third Avenue. Third Avenue from Orange Street to Main Street is proposed to be improved with new pavement, curb, gutter and sidewalk. Planning and environmental review for this section of Third Avenue will occur in 2005 and construction is proposed for 2007/2008. The proposed OMPPA Transmission Project would cross over Third Avenue at MP 35.9.

Otay Lakes Road. Otay Lakes Road from approximately Ridgeback Road to East H Street will be widened to ease traffic congestion generated by Bonita Vista High School (City of Chula Vista 2004). Construction is proposed to occur 2004/2005. The proposed OMPPA Transmission Project would cross Otay Lakes Road overhead at MP 30.8.

City of National City

In the City of National City, the OMPPA Transmission Project would cross over several roadways: 24th Street/Mile of Cars Way, West 18th Street, Civic Center Drive, and West 8th Street. No roadway improvement projects are planned to occur for any of these roadways within the City of National City (A. Lamda, pers. comm., September 28, 2004).

City of San Diego

In the City of San Diego, the OMPPA Transmission Project would affect 25 roadways. Based on review of information provided by the City's traffic engineer, the following improvement projects are planned to occur within the study area.

Harbor Drive at Sampson Street. Traffic signal modification and modernization are proposed at the intersection of Harbor Drive and Sampson Street. Construction is proposed to occur in the

first quarter of 2005. The proposed OMPPA Transmission Project would be located underground in Harbor Drive at this location (MP 44.9).

Pacific Highway. Pacific Highway from Harbor Drive (Milepost 47.0) to Laurel Street (Milepost 48.3) is located within the North Embarcadero Visionary Plan (NEVP) area developed by the Centre City Development Corporation, City of San Diego, San Diego Unified Port District, County of San Diego and U.S. Navy. The NEVP is a revitalization plan for San Diego's bayfront area, extending from Lindbergh Field to the north to Seaport Village to the south and west of Pacific Highway. The NEVP provides guidelines for land use and public improvements.

The NEVP proposes to establish Pacific Highway as an "elegant tree-lined boulevard accommodating through traffic and pedestrian circulation" (CCDC 2004). Pacific Highway would be designed to accommodate six travel lanes, center turn lane and/or median, two parking lanes, and two 14-foot wide sidewalks. The total ROW for Pacific Highway would be 130 feet. Currently, Pacific Highway accommodates four to six travel lanes. Because of the considerable width of the expanded Pacific Highway, the NEVP schematic 60 percent design calls for a wide, planted median (CCDC 2004). The median is intended to retain a pedestrian environment to connect the waterfront to the downtown neighborhoods. The ability to plant the median with trees is an integral component to retaining walkability in the area.

Pedestrian Bridge. The San Diego Unified Port District along with the Centre City Development Corporation, as required by the CPUC to reopen Harbor Drive following construction of Petco Park, have proposed to develop a pedestrian bridge at Park Boulevard and Harbor Drive near Mile-post 46.

Napa Street. Napa Street from Morena Boulevard to Linda Vista Boulevard is proposed to be widened during the second half of 2007. The proposed OMPPA Transmission Project would be located underground in Linda Vista Boulevard.

Ocean Beach/Hotel Circle Bike Path. A Class I bike path is proposed to connect the existing Ocean Beach Bike Path to Hotel Circle North along the south side of the San Diego River. Construction of the bike path is proposed to occur between December 2006 and May 2007.

D.12.2 Applicable Regulations, Plans and Standards

Construction of the OMPPA Transmission Project could potentially affect access, traffic flows, curbside parking and transit routes on public streets and highways. Therefore, it will be necessary for SDG&E and/or the construction contractor to obtain encroachment permits or similar legal agreements from the public agencies responsible for each affected roadway or other transportation ROW. Such permits are needed for ROWs that would be crossed by the

transmission line as well as for where transmission line construction activities would require the use of public ROW for a parallel installation. For the Proposed Project or any of the alternatives, these encroachment permits would be issued by Caltrans, the County of San Diego, and the Cities of Chula Vista, National City and San Diego, or other affected agencies.

The City of San Diego maintains the following policies that apply to installation of the Sicard Street Transition Area to Old Town Substation (Sicard Street to Old Town) underground segment.

- City of San Diego Annual Holiday Construction Moratorium: This moratorium limits construction work that will affect on-street parking, vehicle travel lanes, or pedestrian sidewalks during the holiday season starting on Thanksgiving Day (November 27) and extending to New Year's Day (January 1). A special permit will be required for non-emergency construction projects to occur during this period.
- City of San Diego Trench Code Ordinance, Municipal Code 62.12: This policy prohibits excavation within public rights-of-way that have been resurfaced three years or less prior to the permit application or that have been slurried one year or less prior to the permit application. A special permit and excavation fee would be required.

The project, including all helicopter construction activities, would also be required to comply with all appropriate regulations of the Federal Aviation Administration (FAA).

D.12.3 Environmental Impacts and Mitigation Measures for the Proposed Project

A transmission line is more likely to affect the transportation facilities during construction than during operation, because there is typically only a minimal amount of surface activity required to operate a transmission line (on average, fewer than one vehicle trip per day). Consequently, the transportation analysis is devoted to the potential impacts during the construction phase.

With regard to aviation impacts, these impacts could occur during both construction and operation of a transmission line project because these impacts are caused by physical impediments to the navigable airspace. However, according to the guidelines of the FAA, construction of the OMPPA Transmission Project could potentially have a significant impact on aviation activities if a structure, crane, or wire were to be positioned such that it would be more than 200 feet above the ground or if an object would penetrate the imaginary surface extending outward and upward from a public or military airport runway or a helipad. The OMPPA Transmission Project would not be located within the air space of a public or military airport runway or helipad. Because the new transmission structures would on average be 140 feet with a

maximum height of approximately 185 feet (new steel pole no. 550), these project components would not extend into navigable airspace. Helicopters may be used to facilitate installation of the overhead line. The U.S. Marine Corps Air Station Miramar is the only airport near the overhead portion of the route. Helicopter activities will be based from two or three locations to be determined before construction and flight paths will be coordinated with local air traffic control (Federal Aviation Administration) per SDG&E's Environmental Standard for Federal Aviation Administration Notification Requirements for Construction in the Vicinity of Airports. Helicopter use, if any, will be temporary and limited in duration and will not affect air traffic patterns. Therefore, there would be no aviation impacts associated with the OMPPA Transmission Project or alternatives.

D.12.3.1 Definition and Use of Significance Criteria

The significance criteria are based on the CEQA checklist in Appendix G of the CEQA Guidelines a review of environmental documentation for other utility projects in California, as well as input from staff at the public agencies responsible for the transportation facilities. Traffic/transportation impacts would be significant if one or more of the following conditions resulted from construction:

- The installation of the transmission line within, adjacent to, or across a roadway would reduce the number of, or the available width of, one or more travel lanes during the peak traffic periods, resulting in a temporary disruption to traffic flow and/or increased traffic congestion;
- A major roadway (arterial or collector classification) would be closed to through traffic as a result of construction activities and there would be no suitable alternative route available;
- Construction activities would restrict access to or from adjacent land uses and there would be no suitable alternative access;
- Construction activities would restrict the movements of emergency vehicles (police cars, fire trucks, ambulances, and paramedic units) and there would be no reasonable alternative access routes available;
- An increase in vehicle trips associated with construction workers or equipment would result in an unacceptable reduction in level of service on the roadways in the project vicinity, as defined by each affected jurisdiction;
- Construction activities would disrupt bus or rail transit service and there would be no suitable alternative routes or stops;
- Construction activities within, adjacent to, or across a railroad ROW (ROW) would result in a temporary disruption of rail traffic;

- Construction activities would impede pedestrian movements or bike trails in the construction area and there would be no suitable alternative pedestrian/bicycle access routes;
- Construction activities or staging activities would increase the demand for and/or reduce the supply of parking spaces and there would be no provisions for accommodating the resulting parking deficiencies;
- Construction activities would conflict with planned transportation projects in the project area;
- An increase in roadway wear in the vicinity of the construction zone would occur as a result of heavy truck or construction equipment movements, resulting in noticeable deterioration of roadway surface;
- Construction activities of the project would result in safety problems for vehicular traffic, pedestrians, transit operations, or trains.

D.12.3.2 Applicant Proposed Measures

Table D.12-8 shows the APM proposed by SDG&E to reduce project impacts related to transportation and traffic.

TABLE D.12-8

APPLICANT PROPOSED MEASURE FOR TRANSPORTATION AND TRAFFIC

APM No.	Description
59	If suitable park and ride facilities were available in the project vicinity, construction workers would be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the project's construction schedule.

D.12.3.3 230 kV Overhead Transmission Line

Operations Review

Operation of the 230 kV transmission line would have no appreciable impact on traffic, as maintenance would be limited to periodic inspections and repairs as necessary.

Construction Overview

Overhead transmission line construction is estimated to last approximately 18 months. It is estimated that approximately 40 workers per day would be required to construct the project at its

peak and that approximately 10 truck trips per day would be required to transport materials and supplies.

Construction of the overhead transmission line portion of the Proposed Project from the Sycamore Canyon to Fanita Junction and Miguel Substation to South Bay Power Plant area would include preparation of access roads, installation of the new supporting structure foundations, removal of existing facilities, erection of new support structures, stringing of the All of the proposed overhead transmission line would be new conductor, and cleanup. constructed within SDG&E's existing ROW. No permanent structures are proposed within Caltrans ROW or within local jurisdiction roadways. The majority of the tower sites are accessible from existing paved and dirt roads. However, some tower sites would require establishment of access roads or reestablishment of existing roads that have been out of service (see Figure B-3, Project Maps 1 through 2c, for the proposed access road improvements associated with the project). Motorized graders and crawler tractors would need to be hauled to various portions of the proposed overhead route for access road establishment and reestablishment work. It should be noted that all existing access roads that would be utilized by the overhead transmission line component of the Proposed Project are private with restricted access to the general public. All new access roads associated with the project would also be private with restricted access as well.

For installation of new pole foundations, several haul trips would be required to deliver construction equipment (e.g., auger, backhoes) and materials (e.g., reinforcing steel, concrete, steel mating, reinforced steel cages) to each of the proposed support structure sites. In addition, excavated soils would likely need to be hauled offsite.

Construction of the overhead transmission line portion of the Proposed Project from the Sweetwater River Transition Area to the Sicard Street Transition Area would take place within SDG&E's ROW and would involve modification of existing bridge structures to accommodate the new 230 kV transmission line. No new access would be required.

Before work associated with stringing the new 230 kV line would begin, temporary crossing guard structures would be installed at all road crossings and any other locations where the conductors could potentially come in contact with vehicular traffic. The installation of the proposed 230 kV transmission line would cause temporary disruptions to local regional and local roadways in terms of road and lane closures, street parking displacement, access restrictions, disruption to local transit services and increased traffic volumes.

Impact T-1: Road and Lane Closures, Emergency Response

Tables D.12-1 and *D.12-2* show the road, highway and freeway segments that the proposed overhead transmission line would cross. Each road crossing would require temporary road and lane closures and would delay traffic for no more than 15 minutes in a normal construction sequence. Temporary lane closures and associated safety concerns, increased traffic levels and constrained circulation associated with temporary road closures is considered a significant impact, and would be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-1a and T-1b.

Mitigation Measure for Impact T-1, Temporary Road and Lane Closures

- T-1a **Prepare Transportation Management Plan.** Prior to the start of construction, SDG&E shall submit Traffic Management Plans (TMPs) to all agencies with jurisdiction over public roads that would be affected by overhead and underground construction activities as part of the required traffic encroachment permits or existing franchise agreements. TMPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including hauling of oversized loads by truck, conductor stringing activities and trenching activities. Input and approval from the responsible public agencies shall be obtained; copies of approval letters from each jurisdiction must be provided to the CPUC prior to the start of construction within that jurisdiction. The TMPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual for Construction and Maintenance Work Zones (1996 [Revision 2] edition), the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH). Documentation of the approval of these plans, consistency with SDG&E's utility franchise agreements, and issuance of encroachment permits (if applicable) shall be provided to the CPUC prior to the start of construction activities that require temporary closure of a public roadway. Additionally, SDG&E shall coordinate with the California Highway Patrol for crossing of all freeways and state routes identified in *Table* D.12-1.
- T-1b Restrict Lane Closures. SDG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays. Lane closures in urbanized areas must not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by the affected public agency. Freeway closures shall be limited to weekend mornings between 5:00 AM and 10:00 AM or as directed by Caltrans. All trenching within the City of San Diego shall comply with the City's Trench Cut Ordinance and Holiday Moratorium.

Impact T-2: Construction-Generated Traffic

Construction of the 230 kV line would generate additional traffic on the regional and local roadways serving the area. Construction worker commuter trips, Project equipment deliveries and hauling materials such as concrete, clean fill, excavation spoils, and gravel would increase the existing traffic volumes in the project area.

Workers commuting to construction sites would increase traffic in the project area. The daily Project work force would consist of a maximum of 40 workers over an 18-month period. Workers would drive personal vehicles to laydown area assembly points. Parking for workers' vehicles would be provided at the laydown sites. From these points, some workers would drive or ride in Project vehicles to work areas along the transmission line.

Truck traffic would include approximately 10 truck trips per day carrying equipment and materials, spoils for disposal, and pole and tower support pieces. Trips will be made to and from various points along the transmission line route. The exact routes and scheduling of truck trips are not known at this point. However, truck traffic would be dispersed over the entire project area over an 18-month period.

It is expected that this limited short-term (approximately 18 months) construction-related traffic would not create a substantial impact on traffic volumes nor change traffic patterns in such a way that congestion and delay would substantially increase on street segments or at intersections. For example, Project-related construction traffic is not anticipated to affect the LOS or vehicle to congestion ratio on study area roadways. Therefore, Project-related construction traffic is anticipated to have a less than significant impact (Class III) to traffic and transportation within the study area and therefore, no mitigation is required.

Impact T-3: Physical Impacts to Roads and Sidewalks

Equipment used to construct the overhead transmission line is designed for urban construction, and is not expected to cause any physical damage to public roads or sidewalks. However, there is potential for damage due to heavy construction vehicle use and/or inter-tie of proposed access roads. Therefore, Mitigation Measure T-3a is recommended to ensure that physical impacts to roads and sidewalks are mitigated to less than significant (Class II).

Mitigation Measure for Impact T-3, Physical Impacts to Roads and Sidewalks

T-3a Repair Damaged Roadways. If damage to roads, sidewalks, and/or medians (including irrigation systems for landscaped medians) occurs, SDG&E shall coordinate repairs with the affected public agencies to ensure that any damage is adequately repaired. Roads

disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/easement with the applicable governing agency prior to construction.

Underground trenching activities in roadways shall require returning the affected roadway to previous conditions pursuant to SDG&E's utility franchise agreement with the City of San Diego and/or other affected jurisdictions' encroachment permits. For all affected roadways that have been resurfaced within the last three years, SDG&E shall repave and restripe the entire width of the street (curb to curb) for the length of the trench.

Impact T-4: Impact of Construction on Transit and Rail Operations

The installation of overhead transmission lines could interfere with transit and rail operations. *Table D.12-4* shows the bus routes that the overhead transmission line would cross and *Table D.12-6* shows the trolley routes the proposed overhead line would cross. The potential disruption with transit and rail operations during construction is considered a significant impact and would be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-4a.

Mitigation Measure for Impact T-4, Impacts to Transit and Rail Operations

T-4a SDG&E shall coordinate with MTDB in preparing the Transportation Management Plans (TMPs) as recommended in Mitigation Measure T-1a. The TMPs shall include the requirement to install signs to direct people to alternate transit stops locations as recommended by MTDB.

Impact T-5: Interfere with Pedestrian/Bicycle Circulation and Safety

Table D.12-7 shows the bicycle routes that Project transmission lines would cross. Pedestrian and bicycle circulation could be affected by transmission line construction activities if pedestrians and bicyclists were unable to pass through the construction zone or if established pedestrian and bike routes are blocked. Additionally, since there may be disruption to bicycle routes or paths, sidewalks, shoulders, and pedestrian crossings, pedestrians and bicyclists may enter the affected streets and highways and risk a vehicular-related accident. This is considered a significant impact, and would be mitigated to less than significant levels with implementation of Mitigation Measure T-5a (Class II).

Mitigation Measure for Impact T-5, Construction would Interfere with Pedestrian/Bicycle Circulation and Safety

T-5a Pedestrian and bicycle circulation and safety. Where construction will result in temporary closures of sidewalks and other pedestrian facilities, SDG&E shall provide temporary pedestrian access, through detours or safe areas along the construction zone. Any affected pedestrian facilities and the alternative facilities or detours that shall be provided will be identified in the Traffic Management Plan (TMP). Where construction activity will result in bike route or bike path closures, appropriate detours and signs shall be provided. Where trenching will affect bicycle travel on streets without bicycle facilities, requirements for plates to cover trenches will be in accordance with the permit and/or franchise requirements of the local jurisdiction.

Impact T-6: Construction would Interfere with Emergency Response

Overhead construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles due to brief closures while pulling the conductor across roads (see Impact T-1). This is considered a significant impact, and would be mitigated to less than significant levels with implementation of Mitigation Measure T-6a (Class II).

Mitigation Measure for Impact T-6, Construction would Interfere with Emergency Response

T-6a Ensure emergency response access. SDG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services and paramedic services shall be notified in advance by SDG&E of the proposed locations, nature, timing and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Management Plans (TMP) (Mitigation Measure T-1a) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.

Impact T-7: Construction Would Cause a Loss of Parking

Construction activities may result in short-term elimination of a limited amount of parking spaces immediately adjacent to the construction ROW. To address this, SDG&E has committed

to APM-59, which encourages construction workers to use park and ride facilities in the project vicinity, and to carpool to the jobsite to the extent feasible and therefore, loss of parking due to construction workers and equipment would be less than significant (Class III) and therefore, no mitigation is required.

An approximate 0.5 acre (150 feet by 150 feet) temporary work area will be required at each location to install the proposed new tubular steel poles between Miguel Substation and South Bay Power Plant and to modify the existing lattice bridge structures from South Bay Power Plant to Sicard Street. Ten of the proposed 63 new tubular steel poles are proposed to be located in existing parking lots. Installation of the new steel poles and modifications to the existing lattice towers would result in the temporary loss of approximately 30 parking spaces per steel pole/ bridge structure. This is considered a significant impact, and would be mitigated to less than significant levels with implementation of Mitigation Measure T-7a. Upon completion of construction, the total permanent loss of parking would be approximately three parking places per pole. Loss of three parking places in each of the affected parking lots would represent less than one percent of the existing parking lot capacity and therefore is considered to be less than significant, requiring no mitigation (Class III).

Mitigation Measure for Impact T-7, Loss of Parking

T-7a SDG&E shall coordinate with the lessee and/or owner of affected parking lots to minimize parking loss through timing restrictions that minimize potential conflicts with peak parking needs.

Impact T-8: Conflict with Planned Roadway Improvement Projects

As described in *Section D.12.1.5*, the proposed overhead transmission line would cross over a number of planned roadway improvement projects. The installation of the proposed overhead 230 kV transmission line would not conflict with planned roadway improvement projects as no permanent structures would be placed within the ROW of these roadways.

D.12.3.4 230 kV Underground Cable

Construction Overview

The length of time required for constructing the underground 230 kV transmission line along SDG&E's proposed route is estimated at ten months, including trenching, installation of the concrete duct bank, vault installation, cable installation, splicing, and terminating. It is estimated that approximately 20 workers per day would be required to construct the proposed South Bay Power Plant to Sweetwater River Transition Area and Sicard Street Transition Area to Old Town

underground segments at its peak. The proposed underground transmission cable between the South Bay Power Plant and Sweetwater River Transition Area would be installed in SDG&E's ROW in mostly commercial and open areas in the City of Chula Vista, while the underground segment between the Sicard Street Transition Station and Old Town Substation would be installed within City of San Diego public streets. The majority of the underground portion would be installed using open-cut trenching techniques. The typical trench for duct bank installation would be approximately six feet wide, with a depth of six feet. Approximately 300 to 500 feet of open trench would be typical and will be short in duration (two to four weeks). This would generate approximately 400 cubic yards per day of excavated material. Total volume of material to be removed is estimated at approximately 100,000 cubic yards. An estimated 50 to 60 trucks per day would be required to haul materials as it is excavated from the trenches and to deliver supplies.

The underground routes (South Bay Power Plant to Sweetwater River and Sicard Street to Old Town) would primarily require horizontal jack-and-bore and directional drill construction methods where open-cut trenching is not permitted or is not feasible, such as to cross railroad tracks, trolley tracks, highway crossings, drainage channels, and other obstacles where trenching is not feasible.

Impact Discussion

Construction of the ten-mile underground segment of the proposed transmission line would cause temporary lane closures and would reduce the number of lanes for an estimated 500 feet at a time for up to four weeks. Refer to *Table D.12-3* for a list of roads that would be affected by the proposed underground construction. Overall, the temporary lane closures would occur over a period of approximately 10 months. The temporary lane closures, increased traffic levels and constrained circulation in the area is considered a significant impact and would be mitigated to less than significant (Class II) with implementation of Mitigation Measures T-1a and T-1b (see *Section D.12.3.3*).

All of the project-related commute traffic and construction truck/equipment activity is expected to be dispersed over the entire underground transmission line area and dispersed over time. Project traffic could create short-term delays due to construction-related vehicle activity but would not create a substantial impact on traffic volumes nor change traffic patterns in such a way that congestion or delay would substantially increase on street segments or intersections. Therefore, impacts related to temporary project-construction traffic (Impact T-2) would be considered less than significant, requiring no mitigation (Class III).

Underground construction activities within roads require cutting and trenching within the roadway. Although SDG&E plans on restoring the trenched area within public roads, there is a

possibility that physical damage to roads and sidewalks could exist from underground transmission line construction (Impact T-3) after construction is completed. In addition, other parts of roads and/or sidewalks not in the immediate vicinity of a road trench may be physically damaged by vehicles associated with heavy load hauling. Physical damage to roadways and sidewalks is considered a significant impact and would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure T-3a (See *Section D.12.3.3*).

In addition to the impacts described above, underground construction activities would also cause the other types of impacts that would be unique to the underground transmission line portion of the project, each is addressed below.

Impact T-4: Disruption of Public Transit

Construction of the underground transmission line could interfere with transit and rail operations. *Table D.12-5* and *D.12-6* show the bus and trolley routes the proposed underground segment would cross. SDG&E has proposed boring under all rail crossings which would eliminate conflicts with rail service. However, potential scheduling delays and bus stop closures during construction could occur and are considered a significant impact. Implementation of Mitigation Measure T-4a which requires coordination with MTDB (see *Section D.12.3.3*) would mitigate disruption of public transit to less than significant impacts (Class II).

Impact T-5: Interfere with Pedestrian/Bicycle Circulation and Safety

As shown in *Table D.12-7*, a number of bicycle routes could be affected by construction of the underground cable. The potential to interfere with established bicycle/pedestrian routes due to construction of the underground segment is considered a significant impact. Implementation of Mitigation Measure T-5a, as described in *Section D.12.3.3*, would mitigate this impact to less than significant (Class II).

Impact T-6: Construction Interference with Emergency Response

Underground construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. Potential roadway segments that would be most impacted would be two-lane roadways, which provide one lane of travel per direction. These roadway segments are shown in *Table D-12-3*. The loss of a lane and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone. This is considered a significant impact and would be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-6a (see Section D.12.3.3).

Impact T-7: Construction Would Cause a Loss of Parking

Trenching activities could affect parking for area residences and businesses. This impact would be limited in duration and parking on surrounding streets could be used to offset any parking temporarily displaced by trenching activities. Implementation of Mitigation Measure T-7b would ensure that trenching activities affecting on-street parking would have a less than significant impact (Class II). While this measure would not alleviate any short-term parking loss, the advanced warning to affected individuals allows them to adjust their normal routine.

Trenching activities are also proposed across two parking lots on Caltrans property near milepost 51 which would temporarily displace approximately 30 parking places. Additionally, a temporary work area to facilitate the directional drill under the San Diego River is proposed in the northwestern portion of these parking lots which would displace approximately ten parking places. This is considered a significant impact and would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure T-7a (see *Section D.12.3.3*).

The base pit proposed near mile-post 45.0 to facilitate the railway crossing is located on an existing parking lot and may temporarily displace 20 parking places for a period of approximately 21 days. This is considered a significant impact, and would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure T-7a (see *Section D.12.3.3*).

Mitigation Measure for Impact T-7, Parking Loss

T-7b SDG&E shall post signage 24 hours in advance of trenching activities along affected streets to notify residences and businesses that might be inconvenienced.

Impact T-8: Conflict with Planned Roadway Improvement Projects

North Embarcadero Visionary Plan – Pacific Highway Improvements

As described in *Section D.12.1.5*, the proposed underground segment of the project could potentially affect planned roadway improvements along Pacific Coast Highway from Harbor Drive (mile-post 47.0) to Laurel Street (mile-post 48.3) associated with the NEVP. Centre City Development Corporation and the San Diego Unified Port District have expressed concern over possible conflicts that the underground portion of the Proposed Project may have with the NEVP project. The Proposed Project alignment and configuration along the Pacific Coast Highway could result in landscaping constraints which could conflict with the NEVP, specifically the planting of shade trees along the Pacific Coast Highway median.

In order to determine the extent of this potential conflict, SDG&E's 50% design alignment maps showing the proposed 230 kV cable placement within the Pacific Highway were reviewed and compared to 60 percent NEVP Design Plans for Pacific Highway. The proposed duct bank from Laurel Street to Harbor Drive is proposed to be a minimum six feet wide and on average 9.5 feet deep, depending on soils and other substructures and would be placed under the Pacific Highway roadway. There are several sections of the transmission line that are within six- to eighthorizontal feet of proposed tree locations (Black & Veatch 2004, SDG&E OMPPA Transmission Project 50% Alignment Maps). In each case, a minimum of approximately four vertical feet between the top of the duct bank and the current grade is maintained. Presuming this area is backfilled with low strength concrete (FTB), base gravel and pavement, roots will be excluded from the area adjacent to the duct bank to a distance of approximately three feet from the duct bank backfill. *Table D.12-9* provides a summary of anticipated project impacts with respect to proposed tree locations within the Pacific Highway median. As shown in *Table D.12-9*, it is anticipated that the use of small planting spaces can be successful given proper species selection, structural soils, permeable surfaces and maintenance.

TABLE D.12-9

SUMMARY OF IMPACTS FROM PROPOSED 230 KV CABLE/DUCT BANK LOCATION WITH RESPECT TO NEVP PROPOSED TREE LOCATIONS WITHIN THE PACIFIC HIGHWAY MEDIAN

Drawing Number ¹	T-Line Distance Closest*	T-Line Distance Furthest*	Impacts			
PP-021	24 feet	28 feet	All ten trees are set back from the proposed 230 kV cable and duct bank and negative effects from its presence are not anticipated.			
PP-022	18 feet	25 feet	All 13 trees are set back from the proposed 230 kV cable and duct bank and negative effects from its presence are not anticipated.			
PP-023			230 kV cable and duct bank within six feet of all 13 trees; assuming adequate soil depth in median (at least 36 inches), no significant impacts are anticipated.			
PP-024	32 feet	40 feet	230 kV cable and duct bank not encroaching on proposed root zones of any of the seven trees due to horizontal distance; negative effects on the trees are not anticipated.			
PP-025	5 feet	10 feet	All nine trees are within ten feet of the proposed 230 kV cable and duct bank; three trees are within six feet; assuming adequate soil depth in median (at least 36 inches), no significant impact anticipated.			
PP-026	8 feet	20 feet	230 kV cable and duct bank will be within eight feet of six trees, remaining seven trees not encroached upon; assuming adequate soil depth in median (at least 36 inches), no significant impact anticipated.			
PP-027	18 feet	20 feet	230 kV cable and duct bank not encroaching on proposed root zones of any of the eight trees; no significant impacts are anticipated.			

¹ Black & Veatch 2004, SDG&E OMPPA Transmission Project 50% Alignment Maps.

* Estimated distance measurements taken from trunk locations in the center of provided canopy footprints.

Heat generated by the proposed 230 kV cable could also affect proposed trees planted within the Pacific Highway median. *Figure D.12-1* provides a general duct bank heat gradient diagram after cable installation. The heat gradient provides anticipated soil heating and associated drying based on the proposed duct bank and backfill. As shown, there may be a slight rise in soil temperature directly adjacent to the duct bank and an even smaller overall increase in temperature adjacent to the duct bank backfill, and therefore, soil moisture decline in this interface zone would be virtually non-existent over time and impacts to proposed trees' roots would not be anticipated. Tree roots begin to experience difficulty when soil temperatures exceed approximately 36 degrees Celsius. Based on the heat gradient shown in *Figure D.12-1*, soil temperatures will not be elevated more than one to two degrees from normal 27 to 28 degrees Celsius temperatures.

Although no substantial conflicts with proposed landscaping within the Pacific Highway as planned for in the NEVP have been identified as a result of the Proposed Project, implementation of Mitigation Measure T-8a would ensure that conflicts with planned roadway improvements planned for in the NEVP would be mitigated to less than significant (Class II).

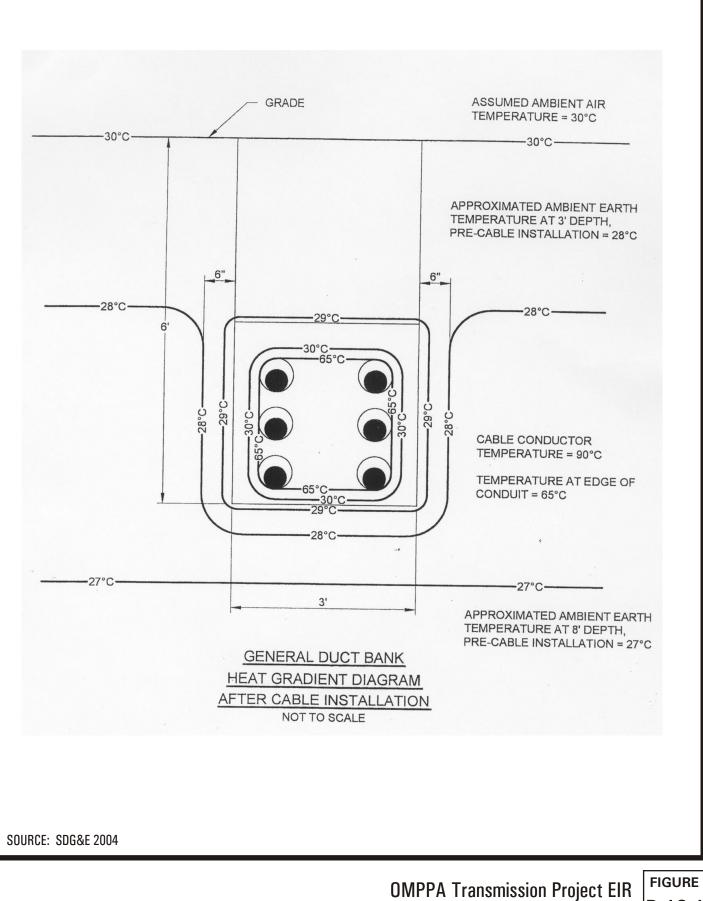
Other Roadway Improvement Projects

In addition to roadway improvements planned for in the NEVP, as described in *Section D.12.1.5*, the proposed underground segment of the project could also potentially affect other planned roadway improvement projects within the City of San Diego including: widening of Napa Street near project mile-post 51.6, development of a Class C bike path along the south side of the San Diego River near mile-post 51, and the proposed pedestrian bridge at Park Boulevard and Harbor Drive.

Conflicts with planned roadway improvement projects is considered a significant impact and can be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-8a.

Mitigation Measure for Impact T-8, Conflict with Planned Roadway Improvement Projects

T-8a During project design, SDG&E shall coordinate with each jurisdiction affected by the underground cable to determine the exact location for placement of the cable to allow the median in Pacific Highway to be improved to the standard contained in the NEVP and allow the footings for the proposed pedestrian bridge at Park Boulevard and Harbor Drive, as well as avoid conflicts with other planned roadway improvement projects occurring within the direct vicinity of the project and within the same time period.



General Duct Bank Heat Gradient Diagram

Coordination with the following jurisdictional departments shall occur in conjunction with final design of the underground cable portion of the project:

- City of San Diego Development Services
- Center City Redevelopment Corporation
- San Diego Unified Port District
- County of San Diego
- U.S. Navy

Documentation of coordinating efforts and local jurisdiction approval of final design plans for the underground cable portion of the project shall be provided to the CPUC prior to the start of construction activities.

Impact T-9: Restricted Access to Properties

When construction occurs in the outer lane and/or shoulders of roads, access to driveways would temporarily be blocked by the construction zone, thereby affecting access and parking for the adjacent residences, institutions, businesses and other uses. Restricted access could occur along Harbor Drive and Pacific Highway. In particular, this would impact Port of San Diego Terminal facilities, including the 10th Avenue Marine Terminal, a busy entry port for cargo, as well as the San Diego Convention Center which can only be accessed via Harbor Drive.

Impacts associated with restricted access to properties during construction along the underground transmission line ROW is considered a significant impact and would be mitigated to less than significant levels (Class II) with implementation of Mitigation Measure T-1a (see *Section D.12.3.3*) and Mitigation Measures T-9a and T-9b.

Mitigation Measure for Impact T-9, Restricted Access to Properties

T-9a In conjunction with Mitigation Measure L-3a, L-3c and L-3d, impacts to Land Use, SDG&E shall notify affected parties, including the San Diego Convention Center Corporation, of potential obstructions to access and make provisions for alternative access. Alternative access provisions and parking will be provided by SDG&E where feasible, with guide signs to inform the public. SDG&E shall give written notification to all landowners, tenants, business operators, and residents along the ROW of the construction schedule, and shall explain the exact location and duration of the underground-related line and construction activities within each street (e.g., which lane/s will be blocked, at what times of day, and on what dates). SDG&E shall identify any potential obstructions to their access, and shall make alternative access provisions. The written notification shall include a telephone number for SDG&E's public liaison and

shall encourage affected parties to discuss their concerns with SDG&E prior to the start of construction so individual problems and solutions can be identified. Alternative access provisions shall include SDG&E provided signage and alternate parking as provided and approved by local agencies, as well as open trenches to be covered with steel plates to provide maximum weight allowance for anticipated traffic.

T-9b SDG&E shall schedule construction so that at least one access driveway is left unblocked during all business hours or hours of use. This scheduling shall be provided by SDG&E to the landowners and tenants so they can inform residents or customers.

D.12.3.5 Transition Station

Because the majority of the work associated with construction of the proposed transition station would occur within an existing parking lot and not within the public ROW, impacts would be limited. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area (Impact T-2), resulting in less than significant impacts (Class III). A temporary work area would be required to construct the transition station which would temporarily displace approximately 30 parking places. This is considered a significant impact, and would be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-7a. The completed transition station would permanently result in the loss of approximately eight parking places. Loss of eight parking places would represent less than one percent of the existing parking lot capacity and therefore is considered to be less than significant (Class III) and therefore, no mitigation is required. No other traffic impacts would occur due to construction or operation of the proposed transition station.

D.12.3.6 Modifications to Substations

New structures in the Sycamore Canyon, Miguel and Old Town Substations would be developed within the existing property lines and within areas previously disturbed for substation access. The work associated with substation and switch station upgrades would occur on the station sites and not within the public ROW. Construction worker commute trips and equipment and material deliveries would slightly increase existing traffic volumes in the project area (Impact T-2), resulting in less than significant impacts, requiring no mitigation (Class III). No other traffic impacts would occur due to construction or operation of proposed modifications to the existing Sycamore Canyon, Miguel or Old Town Substations.

D.12.4 Project Alternatives

D.12.4.1 SDG&E Design Option Alternatives (Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Drive Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

Section D.12.1 describes the existing study area roadways, transit and rail service, airports and bicycle facilities along the Project alignment. Because SDG&E's design option alternatives would occur within the same alignment as the Proposed Project, the existing transportation conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative: This alternative would substitute a portion of the work related to directional drilling under the San Diego River with increased trenching. Under this alternative, approximately 1,400 additional feet of trenching within paved roadways would be required over the Proposed Project as well as attachment of the proposed 230 kV cable to the Pacific Highway Bridge. The underground portion of the Project would take place in City of San Diego roadways, primarily within commercial and industrial areas. Similar to impacts identified for construction of the proposed underground cable portion of the project, project-related excavation for the increased trenching required under the Pacific Highway Bridge Attachment Alternative as well as attachment to the Pacific Highway Bridge would temporarily increase road and lane closures (Impact T-1), construction-generated traffic (Impact T-2), physical impacts to roadways and sidewalks (Impact T-3), interference with pedestrian and bicycle circulation (Impact T-5), and emergency response (Impact T-6) in the vicinity of the work. Implementation of Mitigation Measures T-1a, T-1b, T-3a, T-5a, and T-6a would ensure that all construction-related traffic and interference associated with the Pacific Highway Bridge Attachment Alternative would mitigated to a less than significant impact (Class II).

Harbor Drive Bridge Attachment Design Alternative: The Harbor Drive Bridge Attachment Design Alternative is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. Because this alternative entails only the attachment of the proposed 230 kV cable to the existing Harbor Drive Bridge, impacts to traffic and transportation would only occur on the Harbor Drive Bridge while the proposed 230 kV cable is attached. Construction required to attach the proposed cable would temporarily result in lane closures (Impact T-1) and interference with emergency response (Impact T-6) in the vicinity of the work area. Implementation of Mitigation Measures T-1a, T-1b and T-6a would ensure that all

construction-related interference associated with the Harbor Drive Bridge Attachment Alternative would be mitigated to a less than significant impact (Class II).

Sicard Street Transition Cable Pole Design Alternative: With the exception of impacts due to loss of parking (Impact T-7), the traffic and transportation impacts associated with the Sicard Street Transition Cable Pole would not be different than those associated with the proposed Transition Station and as discussed in *Section D.12.3.5* are considered to be less than significant (Class III). The Sicard Street Transition Cable Pole Design Alternative would result in the loss of approximately three permanent parking places which would represent less than one percent of the existing parking lot capacity and therefore is considered to be less than significant, requiring no mitigation (Class III).

South Bay Power Plant Area to Sweetwater River Overhead Design Alternative: Given that the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative primarily consists of minor modifications to existing structures with SDG&E's utility ROW, physical impacts to roads and sidewalks (Impact T-3), impacts to transit (Impact T-4), impacts to bicycle or pedestrian safety (Impact T-5), interference with emergency response (Impact T-6), loss of parking (Impact T-7), or conflicts to planned roadway improvement projects (Impact T-8) would not occur. Road and lane closures (Impact T-1) required to string the new 230 kV line and construction traffic and resultant impacts (Impact T-2) would be less than significant, requiring no mitigation (Class III).

Comparison to the Proposed Project

Project impacts associated with road and lane closures (Impact T-1), construction-generated traffic (Impact T-2), physical impacts to roadways and sidewalks (Impact T-3), interference with pedestrian and bicycle circulation (Impact T-5), and emergency response (Impact T-6) would increase under the Pacific Highway Bridge Attachment Design Alternative but would be mitigated to less than significant (Class II) by implementing Mitigation Measures T-1a, T-1b, T-3a, T-5a and T-6a. The Pacific Highway Bridge Attachment Alternative would eliminate temporary parking loss (Impact T-7) of approximately ten parking places that would occur under the Proposed Project in order to facilitate the directional drill under the San Diego River.

The Sicard Street Transition Cable Pole Design Alternative would reduce the loss of permanent parking (Impact T-7) associated with the proposed Transition Station from eight parking places to three places.

Traffic and transportation impacts associated with the Harbor Bridge Attachment Design Alternative would be substantially the same as those identified for the Proposed Project. Given that the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative primarily consists of minor modifications to existing structures within SDG&E's existing utility ROW, project-related road and lane closures (Impact T-1) required to string the new 230 kV line and construction traffic and resultant impacts (Impact T-2) would be slightly reduced under this design option and would remain less than significant, requiring no mitigation (Class III). The reduction in traffic and transportation impacts would occur by eliminating project-related trenching along this project segment.

D.12.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.12.1 describes the existing study area roadways, transit and rail service, airports and bicycle facilities along the Project alignment. Because the Transmission System Alternative would occur within the same alignment as the Proposed Project, the existing transportation conditions would be the same as described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Construction of the Transmission System Alternative would require temporary road and lane closures. The number of closures may be slightly greater due to the additional construction activities required under this alternative between the Miguel Substation and South Bay Power Plant, which include removal of 138kV overhead transmission line and associated 46 lattice towers, construction of a 138 kV overhead transmission line from the Proctor Valley Substation to Miguel Substation, and additional work at the Miguel, Proctor Valley and Los Coches Substations. Temporary lane closures and associated safety concerns, increased traffic levels and constrained circulation associated with temporary road closures (Impact T-1) is considered a significant impact, and would be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-1a (Prepare Transportation Management Plan) and T-1b (Restrict Lane Closures).

Construction generated traffic under this alternative between the Miguel Substation and South Bay Power Plant would be greater than the Proposed Project due to the additional components proposed as part of this alternative. Although the amount of traffic generated by construction under this alternative would be greater, it would be short-term and would not result in a substantial increase of traffic on area roadways. Therefore, construction generated traffic (Impact T-2) under this alternative would be less than significant, requiring no mitigation (Class III). Impacts associated with physical damage to roads and sidewalks are not anticipated to occur due to the type of equipment used for urban construction. Physical damage to roads and sidewalks (Impact T-3) due to use of heavy construction vehicles would be mitigated to less than significant with Mitigation Measure T-3a (Class II).

Construction of the Transmission System Alternative could interfere with rail and transit operations and pedestrian and bicycle circulation between the Miguel Substation and South Bay Power Plant as described in *Section D.12*. The potential disruption with transit and rail operations during construction is considered a significant impact and would be mitigated to less than significant (Class II) with implementation of Mitigation Measure T-4a. Interference to bicycle routes or paths, sidewalks, shoulders, and pedestrian crossings may cause pedestrians and bicyclists to enter streets and highways and risk a vehicular-related accident. This is considered a significant impact, and would be mitigated to less than significant levels with implementation of Mitigation Measure T-5a (Class II).

Similar to the Proposed Project, impacts associated with interference of emergency response by ambulance, fire, paramedic, and police vehicles due to brief road/lane closures while pulling the conductor across roads (see Impact T-1) may potentially occur under this alternative. This is considered a significant impact, and would be mitigated to less than significant levels with implementation of Mitigation Measure T-6a (Class II).

Construction of the Transmission System Alternative would result in a loss of parking in a manner similar to the Proposed Project described in Section D.12. With implementation of APM 59, which encourages construction workers to use park and ride facilities in the project vicinity, and to carpool to the jobsite to the extent feasible, the loss of parking due to construction workers and equipment would be less than significant, requiring no mitigation (Class III). Permanent loss of parking due to placement of new steel poles located in existing parking lots would be offset by removal of existing lattice structures currently within existing parking lots and therefore, permanent loss of parking is considered to be less than significant, requiring no mitigation (Class III).

Impacts associated with conflicts with planned roadway improvements (Impact T-8) would be less than significant (Class III) as the above ground structures proposed as part of this alternative would be located within SDG&E's ROW.

Comparison to the Proposed Project

Construction related traffic impacts (Impact T-1 through T-6) under the Transmission System Alternative would be greater than the Proposed Project due to the additional construction activities required but would be mitigated to less than significant with implementation of Mitigation Measures T-1a, T-1b, T-3a, T-4a, and T-5a. Impacts associated with loss of parking spaces (Impact T-7) would be reduced under this alternative and conflicts with planned roadway improvements (Impact T-8) would be the same as the Proposed Project.

D.12.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities associated with the Project or alternatives evaluated in this EIR would be constructed by SDG&E and, therefore, none of the impacts in this section would occur. However, under the no Project Alternative, SDG&E could be forced to upgrade other existing facilities or add new transmission and generation capacity elsewhere to compensate for existing system limitations and anticipated future loads. Other transmission and power generation options would need to be pursued by SDG&E if their growth projections are realized, resulting in construction and operational impacts. These impacts would be expected to be similar to those described in *Section D.12.3* for new transmission, but could vary depending on length of transmission line and location pursued. Traffic and transportation impacts associated with construction of power generation would be more localized and not spread out over a long linear distance as with transmission line development and therefore would be expected to be greater in the given work area. In addition, power generation would also contribute minor permanent traffic impacts associated with operation due to employee commute traffic and delivery and removal of materials.

D.12.5 Mitigation Monitoring, Compliance and Reporting Table

Table D.12-10 shows the mitigation monitoring, compliance, and reporting program for transportation and traffic. The CPUC with assistance from applicable local jurisdictions will be responsible for ensuring compliance with the Mitigation Monitoring, Compliance, and Reporting Program for transportation and traffic. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.12-10* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.12-10*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

1

	TABLE D.12-10 MITIGATION MONITORING PROGRAM – TRANSPORTATION AND TRAFFIC									
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
T-1	Road and lane closures, emergency response	T-1a		Prepare Transportation Management Plan. Prior to the start of construction SDG&E shall submit Traffic Management Plans (TMPs) to all agencies with jurisdiction of public roads that would be affected by overhead and underground construction activities as part of the required traffic encroachment permits or existing franchise agreements. TMPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including hauling of oversized loads by truck, conductor stringing activities and trenching activities. Input and approval from the responsible public agencies shall be obtained; copies of approval letters from each jurisdiction must be provided to the CPUC prior to the start of construction within that jurisdiction. The TMPs shall define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual for Construction, and the Work Area Traffic Control Handbook (WATCH). Documentation of the approval of these plans, consistency with SDG&E's utility franchise agreements, and issuance of encroachment permits (if applicable) shall be provided to the CPUC prior to the start of construction activities that require temporary closure of a public roadway. Additionally, SDG&E shall coordinate with the California Highway Patrol for crossing of all freeways and state routes identified in Table D.12-1.	SDG&E to prepare TMPs as defined.	SDG&E to provide documentation of coordination with affected public jurisdictions as stipulated in the measure and SDG&E confirmation with all required conditions to ensure traffic flows would be generally maintained without severe congestion.	Prior to and during construction for all locations where temporary road or lane closures would be required.			
		T-1b		Restrict Lane Closures. SDG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays. Lane closures in urbanized areas must not occur	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	SDG&E to provide documentation of coordination with affected public jurisdictions and	Prior to and during construction for all locations where temporary road or lane closures would be			

	TABLE D.12-10 MITIGATION MONITORING PROGRAM – TRANSPORTATION AND TRAFFIC									
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by the affected public agency. Freeway closures shall be limited to weekend mornings between 5:00 AM and 10:00 AM or as directed by Caltrans. All trenching within the City of San Diego shall comply with the City's Trench Cut Ordinance and Holiday Moratorium.		confirmation with all required conditions to ensure traffic flows would be generally maintained without severe congestion.	required.			
T-3	Physical impacts to roads and sidewalks	T-3a		Repair Damaged Roadways. If damage to roads, sidewalks, and/or medians (including irrigation systems for landscaped medians) occurs, SDG&E shall coordinate repairs with the affected public agencies to ensure that any impacts are adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regarding and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/easement with the applicable governing agency prior to construction.	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	SDG&E to provide documentation of coordination with affected public jurisdictions and SDG&E confirmation with all required conditions to ensure that restoration/ maintenance of roads to pre-construction conditions as determined by the affected public agency.	After construction is completed on each affected roadway used to access the construction sites and roads which the transmission cable is buried.			
T-4	Impact of construction on transit and rail operations	T-4a		SDG&E shall coordinate with MTDB in preparing the Transportation Management Plans (TMPs) as recommended in Mitigation Measure T-1a. The TMP shall include the requirement to install signs to direct people to alternate transit stops locations	SDG&E to implement measure as defined.	SDG&E to provide documentation of coordination with MTDB to ensure that	Prior to and during construction for all locations where construction activities			

	TABLE D.12-10 MITIGATION MONITORING PROGRAM – TRANSPORTATION AND TRAFFIC								
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				as recommended by MTDB.		the project would not disrupt public transit.	are adjacent to transit services.		
T-5	Interfere with pedestrian/ bicycle circulation and safety	T-5a		Pedestrian and bicycle circulation and safety. Where construction will result in temporary closures of sidewalks and other pedestrian facilities, SDG&E shall provide temporary pedestrian access, through detours or safe areas along the construction zone. Any affected pedestrian facilities and the alternative facilities or detours that shall be provided will be identified in the Traffic Management plan (TMP). Where construction activity will result in bike route or bike path closures, appropriate detours and signs shall be provided. Where trenching will affect bicycle travel on streets without bicycle facilities, requirements for plates to cover trenches will be in accordance with the permit and/or franchise requirements of the local jurisdiction. The TMPs shall be submitted to the CPUC for review and approval prior to construction.	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	SDG&E to provide documentation of coordination with affected public jurisdictions and confirmation with all required conditions to ensure that pedestrian and bicycle circulation would not be disrupted.	Prior to and during construction where closures of sidewalks and other pedestrian services are expected.		
T-6	Construction would interfere with emergency response	T-6a	-	Ensure emergency response access . SDG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services and paramedic services shall be notified in advance by SDG&E of the proposed locations, nature, timing and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Management Plans (TMP) (Mitigation Measure T-1a) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service	SDG&E to implement measure as defined. SDG&E to incorporate measure into construction contracts.	SDG&E to provide documentation of coordination with affected public jurisdictions and confirmation with all required conditions to ensure that construction activities would not preclude emergency vehicle access.	Prior to and during construction for all locations where temporary road or lane closures would be required.		

SDG&E OMPPA Transmission Project D.12 TRANSPORTATION AND TRAFFIC

	TABLE D.12-10 MITIGATION MONITORING PROGRAM – TRANSPORTATION AND TRAFFIC								
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location		
				providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.					
T-7	Construction would cause a loss of parking	Т-7а		SDG&E shall coordinate with the lessee and/or owner of affected parking to minimize parking loss through timing restrictions that minimize potential conflicts with peak parking needs.	SDG&E to implement measure as defined.	SDG&E to provide documentation of coordination with affected owner to ensure that parking restrictions would be minimized.	Prior to and during construction for all affected parking areas.		
		T-7b		SDG&E shall post signage 24 hours in advance of trenching activities along affected streets to notify residences and businesses that might be inconvenienced.	SDG&E to implement measure as defined.	CPUC to review and approve Notice to ensure that temporary parking restrictions would be minimized and affected public notified.	Prior to and during construction for all affected parking areas.		
			APM 59	If suitable park and ride facilities were available in the project vicinity, construction workers would be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the project's construction schedule.	SDG&E to implement measure as defined.	CPUC to verify.	During construction.		
T-8	Conflict with planned roadway improvement	T-8a		During project design, SDG&E shall coordinate with each jurisdiction affected by the underground cable to determine the exact location for placement of the cable to allow the median in Pacific Highway to be improved to the standard contained in the NEVP and allow the footings for the proposed pedestrian bridge at Park Boulevard and Harbor Drive, as well as avoid conflicts	SDG&E to implement measure as defined.	SDG&E to provide documentation of coordination with affected public jurisdictions and confirmation with all	Prior to and durng construction for underground construction within Pacific Highway.		

	TABLE D.12-10 MITIGATION MONITORING PROGRAM – TRANSPORTATION AND TRAFFIC									
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				 with other projects occurring within the direct vicinity of the project and within the same time period. Coordination with the following jurisdictional departments shall occur in conjunction with final design of the underground cable portion of the project: City of San Diego Development Services Center City Redevelopment Corporation San Diego Unified Port District County of San Diego U.S. Navy Documentation of coordinating efforts and local jurisdiction approval of final design plans for the underground cable portion of the project shall be provided to the CPUC prior to the start of construction activities. 		required conditions to ensure that the project would not conflict with planned roadway improvement projects.				
T-9	Restricted access to properties	T-9a		In conjunction with Mitigation Measure L-3a, L-3c and L-3d, impacts to Land Use, SDG&E shall notify affected parties including the San Diego Convention Center Corporation, of potential obstructions to access and make provisions for alternative access. Alternative access provisions and parking will be provided by SDG&E where feasible, with guide signs to inform the public. SDG&E shall give written notification to all landowners, tenants, business operators, and residents along the ROW of the construction schedule, and shall explain the exact location and duration of the underground-related line and construction activities within each street (e.g., which lane/s will be blocked, at what times of day, and on what dates). SDG&E shall identify any potential obstructions to their access, and shall make alternative access provisions. The written notification shall	SDG&E to implement measure as defined.	SDG&E to provide documentation of coordination with affected parties and confirmation with all required conditions to ensure access would be maintained.	Prior to and during construction for all areas where access restrictions are expected during construction of the project.			

SDG&E OMPPA Transmission Project D.12 TRANSPORTATION AND TRAFFIC

	TABLE D.12-10 MITIGATION MONITORING PROGRAM – TRANSPORTATION AND TRAFFIC									
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location			
				include a telephone number for SDG&E's public liaison and shall encourage affected parties to discuss their concerns with SDG&E prior to the start of construction so individual problems and solutions can be identified. Alternative access provisions shall include SDG&E provided signage and alternate parking as provided and approved by local agencies, as well as open trenches to be covered with steel plates to provide maximum weight allowance for anticipated traffic.						
		T-9b		SDG&E shall schedule construction so that at least one access driveway is left unblocked during all business hours or hours of use. This scheduling shall be provided by SDG&E to the landowners and tenants so they can inform residents or customers.	SDG&E to implement measure as defined.	SDG&E to provide documentation of coordination with affected parties and confirmation with all required conditions to ensure access would be maintained.	Prior to and during construction for all areas where access restrictions are expected during construction of the project.			

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D.13 VISUAL RESOURCES

This section addresses the Proposed Project and alternatives, as they would affect visual resources. *Section D.13.1* provides a description of the existing visual setting, and the applicable regulations, plans and standards are provided in *Section D.13.2*. An analysis of the Proposed Project impacts is provided in *Section D.13.3*, and the visual resource impacts related to alternatives are described in *Section D.13.4*. *Section D.13.5* provides mitigation monitoring, compliance, and reporting information.

D.13.1 Environmental Setting for the Proposed Project

This section presents a discussion of the existing visual resources along the OMPPA Transmission Project corridor. The visual analysis utilizes baseline information and visual simulations prepared by SDG&E as part of the PEA (March 2004), and verified in the field. Additional key observation points were identified, as necessary, to show the full range of potentially sensitive viewers and viewing conditions in the project area that may be affected. Types of viewers and viewing conditions that are evaluated include residential, park and recreation areas, major travel routes, and public facilities such as schools and libraries. Additional simulations were prepared to support the analysis and findings for the proposed project and EIR alternatives.

D.13.1.1 General Characteristics of Visual Resources

Visual resources consist of the landforms, vegetation, rock and water features, and cultural modifications that create the visual character and sensitivity of a landscape. A number of factors are documented for the existing visual resources of the project area, in order to determine the manner in which those resources or characteristic landscapes may be modified by the Proposed Project or Alternatives. The primary existing visual condition factors considered in this study are defined below and include: Visual Quality, Viewer Type and Volume of Use, Viewer Exposure, and Overall Visual Sensitivity. The analysis of these factors was conducted from Key Observation Points (KOPs) that are representative of the visual conditions in the project area. KOPs are described in *Section D.13.1* and were selected based on locations where the proposed project and alternatives may cause long-term visual changes. The types and degree of visual changes that would be caused by the Proposed Project or alternatives are subsequently discussed in *Section D.13.3*. Visual changes are shown in computer-generated photographic simulations from the KOPs to illustrate the effects of the Proposed Project from sensitive viewing locations. Simulations from selected KOPs are also included for Alternative 7, to illustrate typical views in the corridor without both transmission lines. Visual photographic simulations are presented at the end of this section.

Visual Quality is defined as the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns. The attributes of variety, vividness, coherence, uniqueness, harmony and pattern contribute to the overall visual quality of an area. For the purposes of this EIR, visual quality is defined according to three levels: (1) indistinctive or degraded — defined as generally lacking in visual resource amenities typical of the region (low), (2) representative — defined as visual resources typical or characteristic of the region (moderate), and (3) distinctive — defined to include visual resources that are unique or exemplary (high). Visual quality is assessed in this EIR for landscapes that would be directly affected by the Proposed Project and areas that would incur visual changes due to the visibility of the project and alternatives.

Viewer Type and Volume of Use considers the type of use and volume of use that various land uses receive that may be visually sensitive to the Proposed Project or alternatives. Areas considered to be of potential high visual sensitivity in this report include residential areas, park and recreation areas, major travel and recreation routes, and public facilities of community value, including schools and other public facilities.

Viewer Exposure addresses the variables that affect viewing conditions from potentially sensitive areas. Viewer exposure considers the following factors: (1) landscape visibility (the ability to see the landscape where the project will be); (2) the viewing distance (i.e., the proximity of viewers to the project); (3) viewing angle — whether the project or alternatives would be viewed from above (superior), below (inferior) or from a level (normal) line of sight; (4) extent of visibility — whether the line of sight is open and panoramic to the project area or restricted by terrain, vegetation and/or buildings; and (5) duration of view.

Visual Sensitivity is the overall measure of an existing landscape's susceptibility to adverse visual changes. This analysis of visual sensitivity is based on the combined factors of visual quality, number and type of viewers, and potential visual exposure to the Proposed Project or alternatives. Visual Sensitivity is reflected in this EIR according to high, moderate and low visual sensitivity ranges. A landscape with a high degree of visual sensitivity is less able to accommodate adverse visual changes from the Proposed Project or alternatives, than areas deemed to be of moderate or low sensitivity.

Overall Visual Sensitivity is concluded based on a composite analysis of an area's aesthetic qualities and potential for being affected by adverse visual changes in the seen environment.

Key Observation Points (KOPs) are representative viewing locations in the area potentially affected by the Proposed Project or Alternatives. KOPs were selected to document locations from which the project would be seen. KOPs consist of views from sensitive residential neighborhoods, recreational

sites and travel routes, as well as public schools and other public areas. KOPs are described in *Section D.13.1.3*.

D.13.1.2 Overview of Landscape Visual Quality and Viewer Sensitivity

Landscape Visual Quality

The Proposed Project is located in San Diego County, and lies within two physiographic areas – the foothills of the Peninsular Range Province and the coastal plain of the Coastal Province. The foothills are in the eastern part of the project area, and are predominantly characterized by rolling hills, moderate to steep slopes, and a number of narrow canyons and drainages. Elevations range from 600 to 2,000 feet. Coastal sage scrub and chaparral vegetation are the most common types of natural vegetation and form a semi-dense shrub cover in areas that have not been developed. Mixed riparian woodlands and grasslands are also present in some of the canyon drainages. Vegetation cover in developed or disturbed areas is diverse, and typically includes ornamental landscaping associated with residential and commercial developments, park and recreation areas. From the Sycamore Canyon Substation, the project initially crosses terrain within the U.S. Marine Corps Air Station Miramar. The first four miles of the project landscape is rugged and undeveloped, and representative of the mountainous landforms and native shrub and grassland vegetation cover that naturally occur with the Peninsular Range Province foothills. From Fanita Junction to the Miguel Substation, the project continues to cross foothills of the Peninsular Range Province. Landscape characteristics associated with this part of the OMPPA Project have been addressed previously in the Miguel-Mission #2 EIR.

From the Miguel Substation heading west towards the Chula Visa Bayfront, the proposed project ROW initially crosses a series of canyons and foothills before reaching lower elevations of the Coastal province. West of the Miguel Substation, the terrain is characterized by rolling hills, steep slopes and finger canyons including Long, Bonita, Rice and Telegraph Canyons. The visual character of the landscape in the eastern part of the project area is a mixture of predominantly undeveloped open space along the canyons and drainage slopes, with dense residential and community areas on the mesas and valleys. Between the Miguel Substation and approximately Telegraph Canyon Road, the project area has been developing extensively over the past 15 to 20 years and is characterized by upscale homes and community areas of East Lake and Otay Ranch.

Near the project's crossing of Telegraph Canyon Road, the visual character of the landscape changes in terms of natural terrain, vegetation and land use patterns. The landscape terrain becomes more homogeneous and gently rolling, before reaching the flat coastal plains. Overall, elevations in the western part of the project area generally range from 350 to less than 20 feet above mean sea level. This part of the project area was extensively developed between the 1920's and 1980's, and the visual character is representative of the older neighborhoods and mixed residential/commercial areas of Chula Vista.

West of Interstate 5, the landscape is flat coastal plains. The landscape character is formed by a mixture of open space, commercial, industrial, and recreation developments. Industrial areas are predominant in the south bay area where the existing South Bay Power Plant, South Bay switchyard and associated utilities are dominant. Further north, the Port of San Diego harbor facilities, and the Sweetwater Marsh National Wildlife Preserve provide visual amenities associated with the natural qualities of the marsh and coastline. Major transportation and utility corridors, including I-5, the railroad, trolley line, and existing SDG&E transmission facilities form the eastern boundary of this coastal area. Further north of the Sweetwater River, the project area crosses developed urban landscapes of National City and the City of San Diego. Industrial uses form the predominant visual character in National City and the southern part of the City of San Diego, to the Sicard Street Transition Area. The project then continues underground, primarily within city streets of downtown San Diego and Old Town, to the Old Town Substation

Viewer Types and Volume of Use

Visually sensitive areas within the project area include an array of residential neighborhoods, community parks and recreation areas, public community facilities, and Interstate and State highways. Visually sensitive areas were identified in the field according to those locales that currently have views to SDG&E's existing utility corridor, and where changes from the proposed OMPPA Transmission Project would be visually evident. For the purposes of this study, the assessment of visually sensitive areas focuses on residential, park, recreation and other public land uses and travel routes between the Miguel Substation and SDG&E bridge structures along the Chula Vista bayfront, where new transmission structures and circuits would be constructed overhead for the proposed project. Between the Sycamore Canyon Substation and Fanita Junction, a 230 kV circuit would be installed on existing structures, and sensitive viewers are limited. No new structures would be installed along this section of the project, except for six new structures at the Fanita Junction locale. The visibility of these facilities is limited due to the inaccessibility of the area, except for potential backcountry users of Mission Trails Regional Park.

From the Chula Vista bayfront to the Sicard Street transition area, the visual analysis focuses of portions of the project area that may be subject to long-term evident visual changes from the proposed OMPPA transmission project or from long-term cumulative effects related to the recent agreement between SDG&E and the City of Chula Vista to underground existing and future utility lines. From the Sicard Street Transition Station, the proposed project would be undergrounded in streets of San Diego. The visual analysis along this area primarily addresses potential issues with downtown street improvements that could be affected by the Proposed Project.

Residential Areas – Residential areas of Chula Vista are primarily addressed in this EIR section, including the communities of Eastlake, Rancho Del Rey, Lynwood Hills, Castle Park and downtown Chula Vista. In addition, developing and established residential areas in unincorporated San Diego County that would be subject to long-term visual changes due to either new transmission structures or changes at the Miguel Substation are evaluated, as well as residential viewers located near the Old Town substation facilities. Other residential areas, such as the Barrio Logan and Old Town Districts of San Diego are not addressed, since the proposed project transmission facilities would be undergrounded. No long-term visual changes may vary depending on viewer attitudes regarding visual changes to their communities. Visual sensitivity is assumed, for the purposes of this EIR analysis to range from high to low, depending on viewer concerns for the visual environment.

Designated Park, Recreation and Natural Areas – Park and recreation areas are considered of high sensitivity to visual changes due to the type of outdoor use and high viewer volumes. Locations considered visually sensitive to SDG&E's Proposed Project include park and recreation areas where the existing utility corridor is clearly visible and new structures and circuits would be installed overhead. In addition to local park and recreation areas noted below, the Sweetwater Marsh National Wildlife Refuge (and related Chula Vista Nature Center) is assessed as very high visual sensitivity due to the landscape qualities inherent in the values for which the area was federally designated.

Local park and recreation areas, that currently have views to SDG&E's utility corridor, and would be subject to additional visual changes from the Proposed Project due to new overhead structures and circuits are (listed from east to west): Bonita Long Canyon Park, Discovery Park, Sunridge Park, Sunbow Park, Greg Rodgers Park, Palomar Park, Loma Verde Park, SDG&E Park, Marina View Park. and Chula Vista Harbor.

Highways and Scenic/Recreation Roads – A number of highways and scenic/recreation roads are within view of SDG&E utility corridor between Miguel Substation and the Chula Vista Bayfront. The following highways and scenic/recreation roads are considered to be potentially sensitive to visual changes due to the scenic status, high volume and types of changes proposed by the OMPPA Transmission Project: (future) Interstate 125, Otay Lakes Road, Telegraph Canyon Road, I-805, Bay Boulevard, E Street and I-5.

Other Public Facilities – In addition to the residential, recreation, park and highway/road areas discussed above, public community facilities are considered to be potentially sensitive to visual changes due to the high number of viewers and associated uses. Public facilities within the project area including among others, Bonita Vista Middle School, Castle Park High School, Loma Verde Elementary School, and the South Chula Vista Library.

Viewer Exposure

Viewer exposure reflects the degree to which viewers are exposed to views of the landscape and existing SDG&E utility corridor. This evaluation also considers the viewing conditions of the project area with respect to whether the project would be visually screened by foreground or background topography, vegetation or buildings or would be skylined¹. Viewer exposure varies by observation points and is described for the KOPs evaluated in detail below. The following variables are considered:

Landscape Visibility conditions are influenced by a number of seasonal and atmospheric conditions and may vary significantly depending on the time of day and whether atmospheric conditions are clear or hazy. Within the project area, while visibility conditions were found to vary along the route, open and panoramic visibility conditions are typical due to the elevated location of the existing ROW and utility facilities on primary and secondary ridgelines.

Viewing Distance is typically considered according to whether the project would be viewed within a foreground, middleground, or background distance zone. For the Miguel-Mission 230 kV #2 Project, the following distance zones were identified as pertinent to this project and are based on field studies of the project area: foreground – within 0.5 mile; middleground – 0.5 to 1.5 miles, and background -1.5 miles and greater. Within the immediate foreground distance zone of visually sensitive locations, the Proposed Project single steel poles, hardware and conductors have the potential to be clearly visible. Within the *middleground distance zone*, the project would be viewed as in-scale with other surrounding land uses due to the intervening distance. Pole visibility may vary significantly depending on whether the facilities are screened by background terrain or viewed against the sky on ridgelines. Within the middleground distance zone, the horizontal lines created by the conductors may be the most visually evident feature of the project, particularly in natural homogeneous settings, or during early morning and late afternoon low sun angle conditions. In the *background distance zone*, the project may be visually discernable, would be substantially screened by foreground and/or background landscape features, and may be difficult to discern depending on atmospheric conditions. Within this distance zone, the project may be clearly visible on ridgelines in the eastern part of Chula Vista, and where access road improvements would occur on elevated hills.

Viewing Angle and Extent of Visibility considers the relative location of the project to the viewer and whether visibility conditions from a sensitive location would facilitate long views of the project (i.e., views to multiple towers and poles) or be limited by intervening vegetation, structures or terrain. Three *viewing angles* are considered in this study: *inferior, superior,* and *normal* view angles. An inferior view angle occurs where the viewer is located below the project, and his/her line of sight is directed upwards towards the project. In these instances, transmission lines are typically skylined

¹ An object would be "skylined" if it were visible extending over the top of a natural feature, such as a hill or mountain.

and may be visually dominant if located on prominent ridgelines, where long views of the towers and lines are possible. Superior lines of sight occur in instances where the viewer is situated above the project and looks down towards the project, or over the project to more distant scenery. Normal line-of-sight conditions pertain to situations where the viewer and project are on a similar elevation or view plain. The *extent of visibility* is a measure of how much of the project would be seen. In general, long line-of-sight views are created where multiple towers, poles, and conductors are seen, while restricted lines of sight typically reflect viewing conditions where only a small segment (e.g., one or two poles/towers) of the project would be viewed. Long line-of-sight conditions are often associated with superior or inferior view angles, while more restricted visibility of the project is more typical in normal view angle conditions.

Duration of View pertains to the amount of time the project would typically be seen from a sensitive viewpoint. In general, duration of view would be less in instances where the project would be seen for short or intermittent periods (such as from major travel routes and recreation destination roads) and greater in instances where the project would be seen regularly and repeatedly (such as from permanent residences or public use areas).

D.13.1.3 Description of Key Observation Points

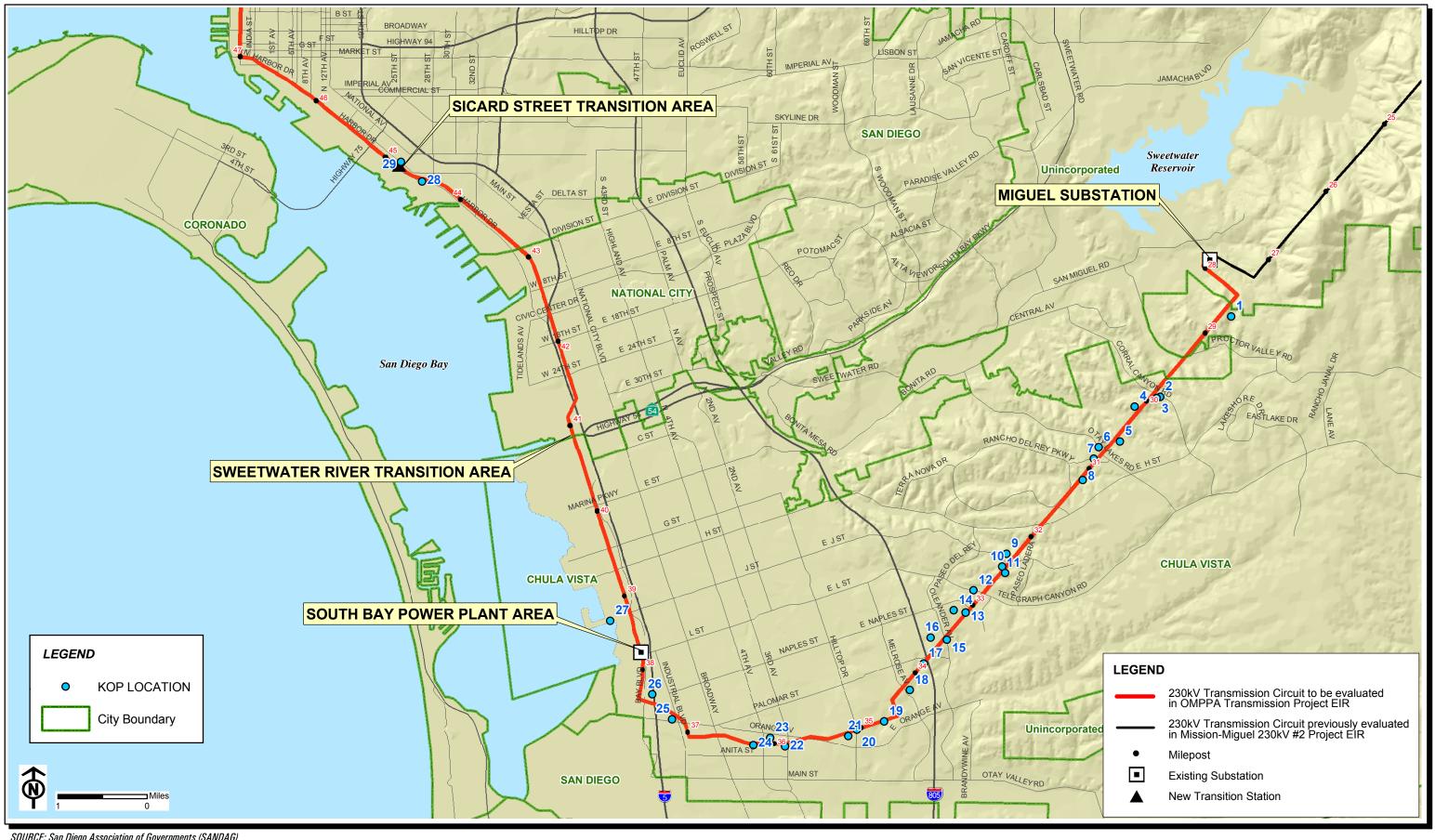
Twenty-nine (29) KOPs have been identified to reflect the range of visual conditions and sensitive views that occur in the project area between the Miguel Substation and Sicard Street Transition Station, where project changes would be visually noticeable.² The KOPs are illustrated in *Figure D.13-1*. The existing viewing conditions at KOPs are addressed below. Since the OMPPA Transmission Project would be a modification and expansion of existing facilities within an already developed utility ROW, the description of KOPs takes into account the ongoing visual effects of SDG&E's facilities, and provides a basis for measuring the existing condition factors described above. Each KOP is described below according to visual quality, visual sensitivity and viewer exposure. Figures showing the KOPs photographically are presented in *Section D.13.3.3*.

Miguel Substation to South Bay Power Plant

KOP 1 – (Future) Residential - Mount Miguel Road (*Figure D.13*-2A)

KOP 1 is located approximately 0.5 mile south of the Miguel Substation on Mount Miguel Road. The view is to the west. At the time of this study, this area is a residential development in the

Key observation points have not been evaluated in detail in this EIR between Fanita Junction and the Miguel Substation and between the Sicard Street Transition Station and Old Town Substation, since transmission and substation changes proposed by SDG&E would be restricted to the addition of new conductors to existing facilities or would be undergrounded.



SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project EIR **KOP Location Map**

FIGURE D.13-1 construction phase; however, it will soon be a typical neighborhood of medium density single-family Mediterranean style homes. Mount Miguel Road is a four-lane boulevard connecting this new neighborhood with Otay Lakes Road to the south. From KOP 1 and nearby residences, viewers are afforded an unobstructed panoramic view of SDG&E's existing facilities.

Visual Quality: Representative. Landscape character is primary developed areas, includes residential structures, man-made landscaping and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground, less than 0.25 mile away.
- Viewing Angle and Extent of Visibility: The view angle is mainly on an inferior plane (i.e., from below), which results in full skylining of SDG&E's existing structures.
- Duration of View: High. Permanent residential use and viewers

Overall Visual Sensitivity Level: High.

KOP 2 – Residential - Coltridge Lane (*Figure D.13-3A*)

At the intersection of Coltridge Lane and Corral Canyon Road and immediately east of Bonita Long Canyon Park, viewers at KOP 2 have an unobstructed foreground view to the north and SDG&E's existing facilities. Located in an established residential neighborhood of medium density single family homes, this KOP represents the view experienced by local residents, as well as motorists on Corral Canyon Road and pedestrians visiting the park to the west.

Visual Quality: Representative. Landscape character is primary developed, including residential homes, man-made landscaping and SDG&E's existing utility towers and lines.

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground, less than 0.25 mile away.
- Viewing Angle and Extent of Visibility: The view angle is on a normal plane, resulting in full skylining of SDG&E's existing structures.
- Duration of View: High to Low. Permanent residential use and viewers

Overall Visual Sensitivity Level: High.

KOP 3 – Bonita Long Canyon Park (*Figure D.13-4A*)

Centrally located in a residential neighborhood, 12.5 acre Bonita Long Canyon Park provides a variety of recreational facilities and opportunities, including playground equipment, picnic tables and landscaped open space encompassed by a walking path. Views from KOP 3 are to the west and include foreground views of transmission facilities in the SDG&E ROW lying adjacent to the western edge of the park. Existing views from the park are to residential uses in the foreground and middleground while background views to the northeast extend to Mt. Miguel.

Visual Quality: Representative of landscaped and maintained neighborhood parks and SDG&E's existing transmission towers and lines

Viewer Type and Volume: Public community park. Moderate volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground, less than 0.25 mile away.
- Viewing Angle and Extent of Visibility: The view angle is normal with skylining of the existing lattice structures. Unobstructed views of the transmission line are typical.
- Duration of View: Moderate Transient use, by multiple, frequent viewers.

Overall Visual Sensitivity Level: High

KOP 4 – Residential - Pepperwood Court (Figure D.13-5A)

Viewers at KOP 4 are afforded a partially obscured foreground view of SDG&E's existing facilities from the cul-de-sac at the east end of Pepperwood Court. This neighborhood's landscape is characterized by single-family Mediterranean style homes with exotic landscaping and turf surfaces. Visibility of the transmission lines and towers varies substantially from block to block, depending on the location of intervening homes and landscaping. From KOP 4, the existing transmission facilities are visually dominant in the landscape due to their location directly behind homes at the end of Pepperwood Court.

Visual Quality: Representative. Landscape character is predominantly residential subdivision with established exotic species. SDG&E's existing utility facilities are partially visible.

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

• Viewing Distance Zone: Foreground.

- Viewing Angle and Extent of Visibility: The viewing angle at KOP 04S is normal. Due to the proximity of the towers to residential homes, views are primarily to specific towers, rather than long views of the overall transmission corridor. Towers are typically skylined due to their proximity to homes; however, intervening structures and vegetation provide partial screening of the transmission towers from most other streets in the subdivision.
- Duration of View: High. Permanent residential use and viewers.

Overall Visual Sensitivity Level: High.

KOP 5 – Residential - Via Hacienda (Figure D.13-6A)

Viewers at KOP 5 are afforded an unobscured foreground view to the west of SDG&E's existing facilities from a cul-de-sac connecting to Via Hacienda. Landscape character is distinguished by single family Mediterranean style homes with exotic landscaping and turf surfaces. Visibility of the transmission lines and towers varies substantially from block to block, depending on the location of intervening homes and landscaping. From KOP 5, the existing transmission facilities are visually dominant in the landscape due to their location directly behind the homes on the west side of Via Hacienda.

Visual Quality: Representative. Landscape character is characterized as residential subdivision with established exotic species and turf in landscaped areas. and SDG&E's existing transmission towers and lines

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle at KOP 5 is slightly inferior. Due to the proximity of the towers to residential homes, views are primarily to specific towers, rather than long views of the overall transmission corridor. Towers are typically skylined due to their proximity to homes; however, intervening structures and vegetation provide partial screening of the transmission towers from most other streets in the subdivision.
- Duration of View: High. Permanent residential use and viewers.

Overall Visual Sensitivity Level: High.

KOP 6 – Otay Lakes Road (Figure D.13-7A)

KOP 6 represents the view seen by pedestrians and motorists on Otay Lakes Road, looking south from a point immediately east of Bonita Vista Middle School. Otay Lakes Road is a well-traveled four-lane connecting route between residential neighborhoods to the northwest and the schools and shopping areas near its intersection with Chula Vista's East "H" Street. The landscape character of this area features a mixture of commercial and scholastic uses as well as medium density single-family residential, high density multi-family residential developments, exotic landscaping and turf surfaces. SDG&E's utility corridor crosses Otay Lakes Road just south of KOP 6. Viewers looking south from this KOP are afforded an unobstructed skyline view of SDG&E's existing facilities.

Visual Quality: Representative. Landscape character is primary developed areas, including commercial and residential structures, man-made landscaping, and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Transient, moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The view angle is mainly on an inferior plane (i.e., from below), which results in full skylining of SDG&E's existing structures.
- Duration of View: Low. Transient use and viewers.

Overall Visual Sensitivity Level: Moderate.

KOP 7 – Bonita Vista Middle School and Residential Public School (Figure D.13-8A)

Viewers at KOP 7 are afforded an unobscured foreground view of SDG&E's existing facilities from a location immediately east of Bonita Vista Middle School on Ridgeback Road. Landscape character is a combination of multi-family homes, commercial buildings and the school, all with exotic landscaping and turf surfaces. From KOP 7 the existing transmission facilities are visually dominant in the landscape due to their location adjacent to Bonita Vista Middle School and commercial parking areas on Ridgeback Road.

Visual Quality: Representative. Landscape character is multi-family residential development combined with commercial, school buildings, and SDG&E's transmission facilities. Exotic plant species and turf surfaces are established in landscaped areas.

Viewer Type and Volume: Residential and transient, moderate to high volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle at KOP 7 is normal. Due to the proximity of the towers to existing structures, views are primarily to specific towers, rather than long views of the overall transmission corridor. Towers are typically skylined due to their proximity to open areas; however, intervening structures and vegetation provide partial screening of the transmission towers from most other streets in the area.
- Duration of View: High. Permanent residential use and viewers.

Overall Visual Sensitivity Level: Moderate to High.

KOP 8 – Discovery Park (*Figure D.13-9A*)

Located in Rice Canyon, Discovery Park is a community recreation site, and part of Chula Vista's Rancho Del Rey neighborhood. The 14.5-acre park provides a variety of recreational facilities and opportunities, including walking trails, playground equipment and baseball fields. Discovery Park is directly crossed by SDG&E's ROW and has unobstructed views to the existing facilities within a foreground viewing distance zone. From KOP 8, views are to the northeast and SDG&E's existing lattice towers are fully skylined and visible on the hills overlooking the park to the northeast and southwest, less than 0.15 mile away.

Visual Quality: Representative. Landscape quality is composed of landscaped park areas in the immediate foreground, with natural shrub covered hills in the background, to the south and north. SDG&E facilities are fully visible.

Viewer Type and Volume: Public community park. Moderate volume of transient use.

Viewer Exposure:

- Viewing Distance Zone: Foreground, approximately 0.15 mile away.
- Viewing Angle and Extent of Visibility: Inferior viewing angle. Existing transmission line corridor is elevated and existing transmission towers are skylined. Foreground views of the transmission line corridor are predominant.
- Duration of View: High. Transient use, by multiple, frequent viewers.

Overall Visual Sensitivity Level: High.

KOP 9 – Residential - Chestnut Court (*Figure D.13-10A*)

Viewers at KOP 9 are afforded long, unobscured foreground-to-middleground views to the east of SDG&E's existing facilities from a cul-de-sac at the end of Chestnut Court. This neighborhood's landscape is characterized by single-family Mediterranean style homes with exotic landscaping and turf surfaces set amongst undeveloped open space and native vegetation. Existing views are to residential uses in the foreground and middleground while background views to the northeast extend to Mt. Miguel. Visibility of the transmission lines and towers varies substantially from block to block, depending on the location of intervening homes and landscaping. From KOP 9, existing transmission facilities are visually dominant in the landscape due to their location directly east and north of homes at the end of Chestnut Court.

Visual Quality: Representative. Landscape character is residential subdivision with established exotic species and turf in landscaped areas. SDG&E existing transmission facilities are visible.

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground / Middleground.
- Viewing Angle and Extent of Visibility: The viewing angle at KOP 9 is normal. Due to the proximity of the transmission line to residential structures and intervening open space, viewers are afforded long views of the overall transmission corridor. Towers are typically skylined due to their proximity to Chestnut Court and open space; however, intervening structures and vegetation provide partial screening of the transmission facilities from most other areas in the subdivision.
- Duration of View: High. Permanent residential use and viewers.

Overall Visual Sensitivity Level: High.

KOP 10 – Sunridge Park (Figure D.13-11A)

Sunridge Park, located immediately south of East "J" Street in the Lynwood Hills area of Chula Vista, covers 6 acres and provides neighborhood facilities including picnic sites, walking trails, and playground equipment. Since it is situated directly under and to the west of SDG&E's ROW, Sunridge Park has unobstructed views to the existing facilities within a foreground viewing distance zone. From KOP 10, SDG&E's existing lattice towers are fully skylined to the northeast and also visible on the hills overlooking the park to the southwest, less than 0.15 mile away.

Visual Quality: Representative. Landscape quality predominantly consists of man-made turf and exotic tree and plant species landscapes associated with the park and the residential neighborhood surrounding the park. SDG&E facilities are also visible.

Viewer Type and Volume: Public park. Moderate volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle to the northeast is mainly on a similar plane (i.e., normal) as the transmission line ROW. To the southwest, the ROW is elevated on a hill providing inferior angle of views to the ROW. Due to the proximity of the ROW to the park, most towers are partially or wholly skylined.
- Duration of View: Transient use and users.

Overall Visual Sensitivity Level: High.

KOP 11 – Residential - Blackwood Road (Figure D.13-12A)

Viewers at KOP 11 are afforded a partially obscured foreground view to the west of SDG&E's existing facilities from the cul-de-sac at the west end of Blackwood Road. This neighborhood's landscape is characterized by single-family Mediterranean style homes with exotic landscaping and turf surfaces. Visibility of the transmission lines and towers varies substantially from block to block, depending on the location of intervening homes and landscaping. From KOP 11, the existing transmission facilities are visually dominant in the landscape due to their location directly behind homes at the end of Blackwood Road.

Visual Quality: Representative. Landscape character is residential subdivision with established exotic species, turf in landscaped areas, and SDG&E's existing transmission facilities.

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle at KOP 11 is normal. Due to the proximity of the towers to existing residences, views are primarily to specific towers, rather than long views of the overall transmission corridor. Towers are typically skylined due to their proximity to homes; however, intervening structures and vegetation provide partial screening of the transmission towers from most other areas of the subdivision.

• Duration of View: High. Permanent residential use and viewers.

Overall Visual Sensitivity Level: High.

KOP 12 – Telegraph Canyon Road, View Looking East (Figure D.13-13A)

KOP 12 represents the view to the east seen by pedestrians and motorists on Telegraph Canyon Road. The KOP is at a point approximately 600 ft. west of SDG&E's existing transmission line crossing. Telegraph Canyon Road is a busy four-lane boulevard connecting residential neighborhoods of eastern Chula Vista with Interstate 805 and to downtown Chula Vista via "L" Street. Landscape character is that of an established suburban roadway passing through medium-density residential neighborhoods of Mediterranean and ranch style homes, exotic landscaping and turf surfaces. Viewers at KOP 12 are afforded an unobstructed skyline view of SDG&E's existing facilities with a backdrop of mature residential landscaping.

Visual Quality: Representative. Landscape character is characterized as primary developed areas, including residential structures, man-made landscaping, turf surfaces and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Transient, moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground / Middleground.
- Viewing Angle and Extent of Visibility: The view angle is on a somewhat inferior plane (i.e., from below), resulting in skylining of SDG&E's existing structures. Intervening and backdrop landscaping generally limit the extent of visibility.
- Duration of View: Low. Transient use and viewers.

Overall Visual Sensitivity Level: Moderate.

KOP 13 – Sunbow Park (Figure D.13-14A)

KOP 13 is located in Chula Vista's Sunbow Park, just south of East Naples Street and west of Sundown Court. This four-acre park is situated entirely within the existing SDG&E ROW and is essentially a grassy field surrounded by a running/walking track and a few picnic tables. The landscaping of the park includes a variety of exotic species and turf grounds. From KOP 13, views to the transmission line are to the southwest and limited to immediate foreground conditions. These foreground views are typical and the existing transmission facilities are visually dominant in the landscape due to the location of the park completely within the ROW.

Visual Quality: Representative. Landscape quality predominantly consists of man-made turf and exotic tree and plant species landscapes associated with the park and the residential neighborhood surrounding the park. SDG&E transmission facilities are landscape influence.

Viewer Type and Volume: Public park. Moderate volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle to the northeast and southwest is mainly on a similar plane (i.e., normal) as the transmission line ROW. Due to the proximity of the ROW to the park, most towers are wholly skylined.
- Duration of View: Transient use and users.

Overall Visual Sensitivity Level: High.

KOP 14 – Residential Area, Crescent Drive (*Figure D.13-15A*)

The view from a residential neighborhood to the east of Greg Rogers Elementary School is shown in KOP 14, *Figure D.13-15A*. KOP 14 is a foreground view to the southeast from Crescent Drive looking towards SDG&E's existing 138 kV lattice transmission line. This residential neighborhood is typical of medium density Mediterranean style residential developments in Chula Vista. Visibility of the transmission lines and towers varies substantially from block to block, depending on the location of intervening homes and landscaping. From KOP 14, the existing transmission facilities are visually dominant in the landscape due to their location adjacent to homes on Crescent Drive.

Visual Quality: Representative. Landscape character is characterized as residential subdivision with established exotic species and turf in landscaped areas, and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Residential, moderate to low volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground. Approximately 600 feet.
- Viewing Angle and Extent of Visibility: The viewing angle at KOP 14 is normal. Due to the proximity of the towers to residential homes, views are primarily to specific towers, rather than long views of the overall transmission corridor. Towers are typically skylined due to their proximity to homes; however, intervening structures and vegetation provide partial screening of the transmission towers from most other streets in the subdivision.

• Duration of View: High. Permanent residential viewers.

Overall Visual Sensitivity Level: High.

KOP 15 – Greg Rogers Park (*Figure D.13-16A*)

Greg Rogers Park lies 0.25 mile east of Interstate 805 between East Naples Street and East Palomar Street in the City of Chula Vista. This community park provides 52 acres of facilities including picnic sites, walking paths, landscaped open space and baseball fields. From KOP 15, in one of the park's five baseball fields, park users are afforded an unobstructed view to a lattice tower where SDG&E's ROW passes directly through the park. Greg Rogers Park is bounded on the north by Greg Rogers Elementary School, to the east and west by residential neighborhoods and on the south by East Palomar Street and Parkview Elementary.

Visual Quality: Representative. Landscape quality predominantly consists of man-made turf and exotic tree and plant species landscapes associated with the park and the residential neighborhood surrounding the park. Existing SDG&E facilities are a visual influence as well.

Viewer Type and Volume: Public park. Moderate volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle is mainly on a similar plane (i.e., normal) as the transmission line ROW. Due to the proximity of the ROW to the park, most towers are either partially or wholly skylined depending on viewer location relative to existing park structures and vegetation. Long views to existing facilities are possible at foreground to background distance zones and normal view angles as transmission line facilities recede into the northeast and southwest.
- Duration of View: Transient use and users.

Overall Visual Sensitivity Level: High.

KOP 16 – Residential - Raven Avenue (*Figure D.13-17A*)

KOP 16 is located east of Interstate 805 near the intersection of Raven Avenue and Thrush Street, in a residential neighborhood between I-805 and Oleander Avenue. Views from the KOP are to the southeast. Homes in this area are located within 0.25 mile northwest of the existing SDG&E utility corridor. This neighborhood is typical of medium density residential developments in Chula Vista. Visibility of the transmission lines and towers varies from block to block, depending on the location

of intervening homes and landscaping. Landscape character is predominantly an established residential neighborhood of ranch style homes, exotic landscaping and turf surfaces.

Visual Quality: Representative. Landscape character is characterized as primary developed, residential structures, man-made landscaping and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Residential, low to moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: Since tower and conductors are elevated on higher ground to the southeast, view angle is slightly inferior resulting in skylining of the lattice structure. The extent of visibility is somewhat limited by intervening homes and landscaping.
- Duration of View: High. Permanent residential use.

Overall Visual Sensitivity Level: High.

KOP 17 – Nacion Avenue (*Figure D.13-18A*)

Located less than 100 yards west of Interstate 805 and similarly south of East Palomar Street, KOP 17 affords passersby on Nacion Avenue a long, unobstructed foreground-to-middleground view of the SDG&E ROW and existing facilities from a position near the southern edge of that corridor. Views from this KOP are to the southwest. Due to its location, the landscape character at KOP 17 is that of the corridor itself; primarily cleared hillsides with a mixture of native and exotic vegetation bounded by residential neighborhoods and man-made landscaping. Since existing lattice structures are positioned on higher ground to the southwest, the view angle at KOP 17 is inferior, resulting in clear skylining of the towers and conductors.

Visual Quality: Representative. Landscape quality predominantly consists of cleared hillsides associated with the open ROW and SDG&E transmission facilities. Incidental exotic and native plant species combined with man-made landscaping and other exotic plantings are associated with the residential neighborhoods adjacent to the corridor.

Viewer Type and Volume: Transient. Low volume of use.

Viewer Exposure:

• Viewing Distance Zone: Foreground.

- Viewing Angle and Extent of Visibility: The ROW is elevated to the southwest, providing an inferior angle of view from this KOP. Due to the proximity of the ROW to the KOP, most towers are partially or wholly skylined.
- Duration of View: Transient use and users.

Overall Visual Sensitivity Level: Low to moderate.

KOP 18 – Residential - Spruce Street (*Figure D.13-*19A)

KOP 18 is located west of Interstate 805 on Spruce Street, in a residential neighborhood between Melrose Avenue and Nacion Avenue. Homes in this area are located within 0.25 mile south of the existing SDG&E utility corridor. This neighborhood is typical of medium density residential developments in Chula Vista. Views from this KOP are to the north. Visibility of the transmission lines and towers varies from block to block, depending on the location of intervening homes and landscaping. Landscape character is predominantly an established residential neighborhood of Mediterranean style homes, exotic landscaping and turf surfaces.

Visual Quality: Representative. Landscape character is primary characterized by developed residential structures, man-made landscaping and existing SDG&E transmission facilities and ROW.

Viewer Type and Volume: Residential, low to moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: Since tower and conductors are elevated on high ground to the north, view angle is inferior resulting in skylining of the lattice structure. The extent of visibility is somewhat limited by intervening homes and landscaping, although homes on the northern edge of the subdivision have unobstructed views to existing facilities.
- Duration of View: High. Permanent residential use.

Overall Visual Sensitivity Level: High.

KOP 19 – Reinstra Ball Fields (Figure D.13-20A)

KOP 19 is positioned in a parking area at the north end of Reinstra Ball Fields. This recreational facility is located in south central Chula Vista, immediately south of the existing SDG&E utility corridor. These four baseball/softball fields occupy six acres and are contiguous with Loma Verde Park. Situated in a shallow ravine, the landscape of the ball fields is primarily turf covered, but also includes a variety of exotic species. SDG&E's existing ROW is elevated on higher ground north and

east of the fields. From KOP 19, views to the transmission line are within foreground distance zones and towers are typically viewed from an inferior angle resulting in skylining of facilities.

Visual Quality: Representative. Landscape quality predominantly consists of man-made turf and exotic tree and plant species landscapes associated with the ball fields and the residential neighborhood around the facility. Visual character is also influenced by SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Public park. Moderate volume of use.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The viewing angle is mainly inferior as the transmission line ROW is situated on higher ground north and east of the ball fields. Due to the proximity of the ROW to the park, towers are either partially or wholly skylined depending on viewer location relative to existing park structures and vegetation. Existing facilities are viewed at foreground distance zones and inferior view angles.
- Duration of View: Transient use and users.

Overall Visual Sensitivity Level: High.

KOP 20 – SDG&E Park (Figure D.13-21A)

Part of Chula Vista's parks system, SDG&E Park is an 18 acre facility located on Hilltop Drive, completely within the SDG&E ROW. This neighborhood park offers paved walking paths, shaded picnic sites and grassy open space as well as distant views to the ocean. The westward view from KOP 20 is dominated by SDG&E's existing lattice structures that are totally skylined due to their proximity to Hilltop Drive and to the normal view angle from this KOP. Landscape quality consists of exotic tree and shrub species in addition to turf covered surfaces.

Visual Quality: Representative. Landscape quality predominantly consists of man-made turf and exotic tree and plant species landscapes associated with the park and the residential neighborhood adjacent to the park. SDG&E's existing utility corridor is set against adjacent residential development to the north and south.

Viewer Type and Volume: Public park. Moderate volume of use.

Viewer Exposure:

• Viewing Distance Zone: Foreground.

- Viewing Angle and Extent of Visibility: The viewing angle is mainly on a similar plane (i.e., normal) as the transmission line ROW. Due to the proximity of the ROW to the park, towers and conductors are wholly skylined.
- Duration of View: Transient use and users.

Overall Visual Sensitivity Level: High.

KOP 21- Residential - Jicama Way (Figure D.13-22A)

KOP 21 is located on a residential street in the Castle Park area of southern Chula Vista, directly south of SDG&E Park. This neighborhood is typical of medium density single-family ranch style residential developments in Chula Vista. Viewers at this KOP have a foreground view to existing lattice towers and conductors. SDG&E's utility corridor lies adjacent to residential properties on the north side of Jicama Street. Landscape character is predominantly an established medium density residential neighborhood of ranch style homes and exotic landscaping and turf surfaces. From KOP 21, the existing transmission facilities are visually dominant in the landscape due the location of the existing ROW directly north of homes on Jicama Way.

Visual Quality: Representative. Landscape character is primary developed areas, including residential structures, SDG&E's transmission facilities and man-made landscaping.

Viewer Type and Volume: Residential, low to moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The view angle is generally normal which results in partial skylining of the lattice towers. The extent of visibility is generally limited by intervening homes and landscaping, although homes on the northern edge of the subdivision may have open and long views to the existing transmission facilities.
- Duration of View: High. Permanent residential use.

Overall Visual Sensitivity Level: High.

KOP 22 – Residential - 5-10 Mobile Home Ranch (Figure D.13-23A)

KOP 22 is located south of the SDG&E ROW between Third Avenue and Fourth Avenue in the 5-10 Mobile Home Ranch. Homes in this area are located within 0.25 mile of the existing SDG&E utility corridor that runs immediately north of and adjacent to the mobile home park. This neighborhood is typical of mobile home developments in Chula Vista. Landscape character is predominantly an established high-density residential neighborhood of mobile homes, exotic landscaping and paved surfaces. From this KOP, viewers have long views towards the existing SDG&E lattice towers and conductors as the transmission line recedes into the distance to the west.

Visual Quality: Representative. Landscape character is primary influenced by residential structures, man-made landscaping and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Residential, low to moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground to middleground.
- Viewing Angle and Extent of Visibility: The view angle is generally normal which results in partial skylining of the lattice towers. The extent of visibility is generally limited by intervening homes and landscaping.
- Duration of View: High. Permanent residential use.

Overall Visual Sensitivity Level: High.

KOP 23 – Chula Vista South Public Library (Figure D.13-24A)

Located on the south side of the Chula Vista South Public Library, KOP 23 offers a partially obstructed view to existing SDG&E facilities from the library's parking area. Since the parking area lies adjacent to the transmission corridor, library visitors have a normal angle of view to the skylined structures and conductors. Landscape character is generally institutional featuring the large library building, sidewalks and exotic tree species growing in divider islands that also contain lighting standards to illuminate the paved parking area. Although KOP 23 affords the viewer a commanding view to one of the SDG&E lattice towers, most other vantage points on the library grounds offer views that are more limited by intervening landscaping and the library itself.

Visual Quality: Representative. Landscape character is primary influenced by the library structure, paved parking surfaces, man-made landscaping, and SDG&E's transmission facilities.

Viewer Type and Volume: Library visitors, high volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The view angle is normal which results in skylining of the lattice towers. The extent of visibility is generally limited by intervening landscaping, although viewers near the southern edge of the grounds may have open views to the existing transmission facilities.
- Duration of View: Low. Transient use, by multiple, frequent viewers.

Overall Visual Sensitivity Level: Moderate.

KOP 24 – Residential - Lynwood South Mobile Estates (*Figure D.13-25A*)

KOP 24 is located immediately south of the SDG&E ROW between Fourth Avenue and Broadway in the Lynwood South Mobile Estates. Homes in this area are located within 0.25 mile of the existing SDG&E utility corridor that lies north of and adjacent to the mobile home park. This neighborhood is typical of mobile home developments in Chula Vista. Landscape character is predominantly an established high-density residential neighborhood of mobile homes, exotic landscaping and paved surfaces. From KOP 24, viewers have foreground to middleground views to existing SDG&E lattice towers and conductors as the transmission line recedes into the distance to the west.

Visual Quality: Representative. Landscape character is primary developed areas, including residential structures, man-made landscaping and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Residential, low to moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground to middleground.
- Viewing Angle and Extent of Visibility: The view angle is generally normal which results in partial skylining of the lattice towers. The extent of visibility is generally limited by intervening homes and landscaping, although homes on the northern edge of the subdivision may have open and long views to the existing transmission facilities.
- Duration of View: High. Permanent residential use.

Overall Visual Sensitivity Level: High.

KOP 25 – Residential - Trenton Street (*Figure D.13-26A*)

Trenton Street is a residential street located in western Chula Vista, north of Palomar Street between Interstate 5 and the San Diego Trolley Line. This neighborhood is typical of medium density singlefamily residential developments in Chula Vista. Viewers at KOP 25 have a foreground view to SDG&E's existing 138 kV lattice towers and conductors. SDG&E's utility corridor lies adjacent to residential properties at the north end of Trenton Street. Landscape character is predominantly an established medium-density residential neighborhood of ranch style homes, exotic landscaping and turf surfaces. From KOP 25, the existing transmission facilities are visually dominant in the landscape due the location of the existing ROW directly north of Trenton Street. *Visual Quality:* Representative. Landscape character is primary developed areas, including residential structures, man-made landscaping and SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Residential, low to moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The view angle is mainly on a similar plane (i.e., normal), which results in partial skylining of SDG&E's existing structures. The extent of visibility is generally limited by intervening homes and landscaping, although homes on the cul-de-sac at the north end of the street may have open and long views to the existing transmission facilities.
- Duration of View: High. Permanent residential use.

Overall Visual Sensitivity Level: High.

KOP 26 – Interstate 5 South (*Figure D.13-27A*)

Located on southbound Interstate 5, KOP 26 represents the view seen by motorists as they approach the Chula Vista Palomar Street exit and the existing SDG&E transmission line crossing of that busy multilane highway. Landscape character is that of a typical southern California freeway corridor; predominately broad paved roadway surfaces and reinforced concrete center divides with exotic tree and plant species visible at the outer edges of the highway and beyond. Due to the normal angle of view to the existing transmission line and the fact that viewers at KOP 26 are within a foreground viewing zone (less than 0.25 mile), views to existing facilities are clearly skylined and only partially obscured by intervening landscaping and structures.

Visual Quality: Representative. Landscape character is primary developed areas, including paved roadway surfaces and associated features, exotic landscaping, residential and commercial structures, and SDG&E's existing transmission facilities

Viewer Type and Volume: Transient, high volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The view angle is on a similar plane (i.e., normal), resulting in skylining of SDG&E's existing facilities. Extent of visibility is partial due to intervening landscaping and structures.
- Duration of View: Low. Transient use and viewers.

Overall Visual Sensitivity Level: Low to Moderate.

KOP 27 – Marina View Park (*Figure D.13-30A*)

Marina View Park is located west of Interstate 5 on Marina Parkway, just south of Chula Vista Harbor. Encompassing 4.5 acres, less than 0.5 mile north of the existing South Bay Power Plant, Marina View Park offers amenities such as picnic sites, paved walking paths and grassy open space with panoramic views of southern San Diego Bay and the Chula Vista Harbor. While fishing is a primary activity, the park is also used extensively by boaters on their way to or from the Chula Vista Harbor public boat launch. Looking southeast from KOP 27, across a marshy inlet near the park entrance, viewers are afforded a panoramic skyline view to the South Bay Power Plant and SDG&E's existing utility corridor as it parallels I-5 on its way north to San Diego.

Visual Quality: Distinctive to indistinctive. At present, the visual quality from the park is composed of both natural and man-made landscape features, including San Diego Bay and the natural marsh area to the south, as well as Chula Vista Harbor/Marina and the South Bay Power Plant. At the park itself, there is turf covered open space with exotic landscaping and a number of man-made facilities including a paved bay front walk, rest rooms and picnic area. The desired future condition for views from the park would be enhanced by redevelopment of the Chula Vista Bayfront. Future desired conditions would entail the removal or relocation of a South Bay Power Plant, as well as the undergrounding or relocation of the various transmission and subtransmission facilities. The switchyard would also be relocated, under conditions set forth in the MOU between the City of Chula Vista and SDG&E.

Viewer Type and Volume: Public park, moderate use volume. Views are principally oriented towards San Diego Bay and Chula Vista Harbor.

Viewer Exposure:

- Viewing Distance Zone: Foreground to middleground.
- Viewing Angle and Extent of Visibility: The transmission line facilities are situated southeast of the park facilities and are generally at a similar elevation that provides normal viewing angles. Views are long and generally unobstructed to the power plant and SDG&E ROW with at least partial skylining of all visible structures.
- Duration of View: Intermittent and transient use and viewers.

Overall Visual Sensitivity Level: High (based on future desired conditions).

KOP 28 – Harbor Drive (Figure D.13-28A)

KOP 28 represents the eastward view seen by motorists on Harbor Drive west of the 28th Street intersection in south central San Diego. At KOP 28, Harbor Drive is a four-lane divided road providing access to the industrial area south of the Coronado Bay Bridge. The landscape at this KOP is characterized by large heavy industry complexes positioned along the waterfront, open automobile parking areas and SDG&E's existing transmission structures. Viewers at KOP 28 are afforded foreground views to SDG&E's transmission transmission bridge structures, skylined and only partially obscured by intervening trees that line Harbor Drive.

Visual Quality: Representative to Indistinctive. Landscape character is primary developed industrial areas, including SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Transient, moderate volume.

Viewer Exposure:

- Viewing Distance Zone: Foreground.
- Viewing Angle and Extent of Visibility: The view angle is on a similar plane (i.e., normal), resulting in virtually unobstructed views and skylining of SDG&E's existing structures.
- Duration of View: Moderate. Transient use and viewers.

Overall Visual Sensitivity Level: Moderate to Low.

KOP 29 – Sicard Street at Main Street, (Figure D.13-29A)

KOP 29 represents the view seen by pedestrians and motorists on Sicard Street at its intersection with Main Street in south central San Diego. The landscape character at this KOP is typical of an established urban industrial area, featuring large industrial storage tanks, paved surfaces and shipyard machinery on the skyline. Viewers at KOP 29 are afforded foreground views to SDG&E's proposed Sicard Street transition area (presently a fenced automobile parking lot) directly across Main Street.

Visual Quality: Indistinctive. Landscape character is primary developed industrial areas, including SDG&E's existing transmission towers and lines.

Viewer Type and Volume: Transient, moderate volume.

Viewer Exposure:

• Viewing Distance Zone: Foreground.

- Viewing Angle and Extent of Visibility: The view angle is on a similar plane (i.e., normal), resulting in virtually unobstructed views and skylining of SDG&E's existing structures.
- Duration of View: Moderate. Transient use and viewers.

Overall Visual Sensitivity Level: Low.

D.13.2 Applicable Regulations, Plans and Standards

Public agencies and planning policy establish visual resource management objectives in order to protect and enhance public scenic resources. Goals, objectives, policies, and implementation strategies and guidance are typically contained in resource management plans, comprehensive plans and elements, and local specific plans. There are six jurisdictional planning documents (*Sweetwater Community Plan, Amended and Restated Redevelopment Plan – Chula Vista Redevelopment Project, Chula Vista LCP, Port of San Diego Master Plan, National City General Plan and National City LCP*) containing objectives, policies, designations, or guidance pertinent to visual resources for the overhead portion of the Proposed Project. These planning directives and the Proposed Project's consistency with them are addressed in *Section D.7, Land Use*. Overall, the Proposed Project was found to be consistent with all relevant guidance and applicable policies.

Planning issues addressed in this section relate to scenic highways and roadways. A number of roadways have also been identified in state and local planning documents as either official, or eligible, scenic highways and roadways. Applicable roadways, and their designations, within the project area include:

Caltrans - State Route 125, eligible for designation as a State Scenic Highway. The Proposed OMPPA Transmission Project crosses over SR 125 at MP 29.0, near Proctor Valley Road in Chula Vista.

Caltrans - State Route **75**, officially designated State Scenic Highway. Also known as the Silver Strand Highway, the OMPPA Transmission Project crosses under SR 75, north of the Sicard Street Transition Station.

City of Chula Vista – Marina Parkway. The OMPPA Transmission Project crosses and parallels Marina Parkway from M.P. 38.6 to 40.1.

City of Chula Vista – F Street Gateway. The intersection of F Street and Marina Parkway is identified as the gateway connecting the Chula Vista Bayfront with the urban core of the city. The OMPPA Transmission Project crosses this intersection at MP 39.7.

City of Chula Vista - Fourth Avenue. Designated as a scenic roadway by the City of Chula Vista for its residential characteristics, the OMPPA Transmission Project crosses Fourth Avenue at MP. 36.1.

City of Chula Vista - East H Street. East H Street from I-805 to Hunte Parkway is a designated scenic roadway by the City of Chula Vista, and provides views to Rice Canyon and the San Miguel Mountains. The OMPPA Transmission Project crosses East H Street at MP 31.8.

D.13.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.13.3.1 Definition and Use of Significance Criteria

Definition of Adverse Visual Impacts

An adverse visual impact may occur when: (1) an action perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale; (2) an action introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale, or become visually dominant in the viewshed; or (3) an action blocks or totally obscures aesthetic features of the landscape. The degree of visual impact depends upon how noticeable the adverse change is. The noticeability of a visual impact is a function of the project features, context and viewing conditions (angle of view, distance and primary viewing directions). The key factors in determining the degree of visual impact are visual contrast, project dominance and view blockage.

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

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

Project Dominance – Visual dominance is a measure of a feature's apparent size relative to other visible landscape features in the viewshed, or seen area. A feature's dominance is affected by its relative location in the viewshed and the distance between the viewer and feature. The level of dominance can range from subordinate to dominant. Visual dominance is considered in the evaluation of 'form' contrasts, discussed above.

View Blockage or Impairment – is a measure of the degree to which project features would obstruct or block views to aesthetic features due to the project's position and/or scale. Blockage of aesthetic landscape features or views can cause adverse visual impacts, particularly in instances where scenic or view orientations are important to the use, value or function of the land use. The potential for view blockage was evaluated in the field from the KOP's, and was determined to not be an applicable visual impact issue for the OMPPA Transmission Project.

Overall Visual Impact – reflects the composite visual changes to both the directly affected landscape and from sensitive viewing locations. The visual impact levels references in this EIR indicate the relative degree of overall change to the visual environment that the Proposed Project or alternatives would create, considering visual contrast and project dominance.

Significance Criteria

The criteria used to assess the significance of visual impacts resulting from the project takes into consideration the factors described above and state CEQA guidelines pertaining to visual resources. Appendix G of the CEQA Guidelines identifies the following circumstances that can lead to a determination of significant visual impact:

- The project has a substantial adverse effect on a scenic vista.
- The project substantially damages scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
- The project substantially degrades the existing visual character or quality of the site and its surroundings.
- The project creates a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

In general, the determination of impact significance is based on combined factors of Visual Sensitivity and the Degree of Visual Change that the project would cause. The inter-relationship of these two overall factors in determining whether impacts are significant is shown in Table D.13-1.

TABLE D.13-1 GUIDELINES FOR DETERMINING VISUAL IMPACT SIGNIFICANCE

Overall Visual Sensitivity Overall Visual Change

	Low	Low to Moderate	Moderate	Moderate to High	High
Low	Not Significant	Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant
Low to Moderate	Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant
Moderate	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant
Moderate to High	Adverse, but Not Significant	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant	Significant
High	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant	Significant	Significant

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

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

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

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

D.13.3.2 Applicant Proposed Measures

Table D.13-2 presents the APMs proposed by SDG&E to reduce project impacts related to visual resources.

	TABLE D.13-2 APPLICANT PROPOSED MEAURES FOR VISUAL RESOURCES				
APM No.	Description				
3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Maintenance of cut and fill slopes created by project construction activities would consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.				
4	In areas where recontouring is not required, vegetation would be left in place wherever feasible and original ground contour would be maintained to avoid excessive root damage and allow for resprouting.				
5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration would occur as required by the governmental agency having jurisdiction. The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion				

	TABLE D.13-2 APPLICANT PROPOSED MEAURES FOR VISUAL RESOURCES				
APM No.	Description				
	control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. However, material for filling in eroded areas in roads or road ruts should never be obtained from the sides of the road that contain habitat without the approval of the on-site biological resource monitor. Cleared vegetation would be hauled off-site to a permitted disposal location. To limit impact to existing vegetation, appropriately sized equipment (e.g., bulldozers, scrapers, backhoes, bucket-loaders, etc.) would be used during all ground disturbance and recontouring activities.				
40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.				
41	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high- value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see APM 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high-value wildlife habitats, SDG&E would perform three site surveys to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by APMs 20, 21, 42, 43, and 44. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the Corps, CDFG, and RWQCB. When it is not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate federal, state SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either modify the project or develop alternative construction techniques to avoid cultural resou				

	TABLE D.13-2 APPLICANT PROPOSED MEAURES FOR VISUAL RESOURCES				
APM No.	Description				
48	Non-specular conductors would be used to reduce visual impacts.				
49	Dull-finish poles may be used to reduce visual impacts.				
61	To reduce visual contrast, new pole locations would correspond with spacing of existing transmission line structures where feasible and within the limit of pole design. The normal span would be modified to correspond with existing towers where feasible, but not necessarily at every new pole location.				
62	To reduce potential visual impacts at highway, canyon, and trail crossings, poles would be placed at the maximum feasible distance from the crossing within limits of pole design.				
67	Selective Tree Planting (MP 29.5 to MP 36.5). Where close-range, unobstructed views of the new poles are available at distances of less than 250 feet from public parks and residential areas, trees consistent with SDG&E's Landscape Guideline will be installed individually or in informal groupings within the SDG&E easement to partially screen views of the new structures. In consultation with the City of Chula Vista Public Works Department and/or homeowners, trees may also be installed at key locations on residential or park property.				
68	CPUC requirements for landscaping in proximity to transmission lines. Minor adjustment to proposed pole locations (MP 29.5 to MP 36.5). Where close range, unobstructed views of the new poles are available and, where technically feasible, the proposed locations of new tubular steel poles will be adjusted slightly within the SDG&E ROW to reduce impacts on foreground views as seen from public roadways and/or park land. Adjustments to proposed pole locations will take advantage of screening provided by existing vegetation, topography, and/or structures located in the immediate vicinity in order to reduce the project's effect on public sightlines. Adjustments to locations for poles #200 (near J Street), #250 (at Greg Rogers Park),and #400 (near 4 th Avenue) in Chula Vista will be considered.				
69	Sicard Street Transition Area – Tree planting. Broadleaf evergreen trees will be installed along the east side of the site on the inside of the fenceline, parallel to Main Street to partially screen views of the transition station structures and equipment and to integrate the project with its surroundings as seen from Sicard Street and Main Street. Placement of trees will allow for clearances of overhead conductors. Broadleaf evergreen trees will be installed along the west side of the site or within the Harbor Drive median to partially screen views of the transition station structures, to integrate the project with its setting, and to enhance the overall appearance of the Harbor Drive streetscape (if median planting is pursued, this measure will be implemented in consultation with the City of San Diego). All plant material will be appropriate to the local landscape setting and will be consistent with SDG&E and CPUC requirements for landscaping in proximity to transmission facilities.				

Visual impacts from the proposed project would consist of both short-term and long-term changes to the seen environment. Short-term impacts would occur along the entire length of the project and would result from the presence of construction equipment, crews and activities. Long-term impacts would vary depending on the types of facilities and construction proposed by SDG&E. Long-term visual impacts of the OMPPA Transmission Project would be most evident where new overhead structures and conductors would be installed. These types of long-term visual changes would principally occur between the Miguel Substation and I-5 in the City of Chula Vista. Along the Chula Vista Bayfront, SDG&E is proposing to install the 230 kV cable underground, within SDG&E's existing ROW. Visual changes in this area would primarily be short-term and related to construction activities, although two new transition stations would be required west of I-5 near the South Bay Power Plant site, and south of the Sweetwater River. North of the Sweetwater River to the Sicard Street Transition Area, the proposed OMPPA Transmission Project would entail the installation of the 230 kV line on existing modified bridge structures. From the Sicard Street Transition Station to the Old Town Substation, the proposed project would primarily result in short-term construction-related visual changes, since SDG&E is proposing to place the 230 kV cable underground through city streets of San Diego.

This section of the EIR describes the short-term and long-term visual and aesthetic impacts of the OMPPA Transmission Project by impact type. The following types of short-term and long-term visual impacts would result from the Proposed Project:

- V-1: Short-term Visual Impacts Visual/Aesthetic Impacts from Construction Activities and Equipment
- V-2: Long-term Visual Impacts Visual/Aesthetic Impacts from New Facilities and Conductors New Monopoles, Transition Stations and Overhead 230 kV Conductors
- V-3: Long-term Visual Impacts Visual/Aesthetic Impacts from Modifications to Existing Structures SDG&E's Bridge Structures and Additional 230 kV Conductors
- V-4: Long-term Visual Impacts Visual/Aesthetic Impacts to Landscape Resources due to physical ground disturbances associated with project construction and operation.

These impact types are discussed below by project component – the proposed 230 kV overhead line, the 230 kV underground cable, proposed transition stations, and proposed substation modifications.

D.13.3.3 230 kV Overhead Transmission Circuit

Impact V-1: Short-term Visibility of Construction Activities and Equipment

Due to the duration of project construction, visual impacts related to this phase of the project are assessed as short-term, significant effects. (Class II). Temporary visual impacts would result from

the presence of construction equipment, materials, and work forces at the substation sites, staging areas, and along the overhead segments of the proposed project. Construction-related visual impacts would also result from the temporary alteration of landforms and vegetation along the ROW. Vehicles, heavy equipment, project components and workers would be visible during site clearing, grading, substation construction, structure erection, conductor stringing, trenching, cable placement, and site/ROW clean-up and restoration. Construction activities and equipment would be seen by various viewers in close proximity to the sites and ROW including adjacent and nearby residents, recreationists at local parks and motorists, and pedestrians. View durations would vary from brief to extended. Construction activities would be most visible for those elements of the Proposed Project that would be adjacent to residential neighborhoods and parks and major travel routes (e.g., I-805 and I-5). Snub pulling sites would also be visible from Greg Rogers Park (KOP 16), and residential areas of Chula Vista (KOPs 22 and 23). Short-term construction impacts would also result to views from a number of designated or eligible scenic highways and roadways, including SR 125 (eligible State Scenic Highway), Fourth Avenue, and East H Street (Chula Vista Designated Scenic Roadway).

SDG&E has proposed several APMs to minimize construction-related visual impacts during and after construction including measures to minimize ground disturbances (APM 3), as well as restore and/or recontour areas disturbed for marshaling yards and tower sites (APM 5) and access roads (APM 40. In order to ensure that viewers are not unnecessarily impacted during construction (Impact V-1), the following mitigation measure is recommended.

Mitigation Measure for Impact V-1, Short-Term Construction Activities

V-1a Reduce visibility of construction activities and equipment. If visible from nearby residences and roadways, construction sites including all staging areas, material and equipment storage areas, substation facilities and transition stations, shall be visually screened with temporary screening fencing. All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and all disturbed areas shall be remediated to an original or improved condition upon completion of construction including replacement of any vegetation or paving removed during construction. SDG&E shall submit final construction plans demonstrating compliance with this measure to the CPUC for review and approval at least 60 days prior to the start of construction.

Impact V-2: Long-term Visual Impacts – Visual/Aesthetic Impacts from New Facilities and Conductors – New Monopoles and Overhead 230 kV Conductor

Sycamore Canyon Substation to Fanita Junction

The long-term visual impacts of the OMPPA Project, between the Miguel and Sycamore Canyon Substation would primarily be caused by the addition of the second 230 kV circuit on existing structures. Five additional structures would also be installed near Fanita Junction. This segment of the project is located on the U.S. Marine Corps Air Station Miramar. There are no identifiable adverse impacts to sensitive residential neighborhoods, parks, or recreation areas within 0.5 mile of this segment. Visual changes from the new 230 kV conductor or new poles, that may be seen at greater distances, would be less than significant (Class III). This part of the proposed project would not have a substantial adverse effect on scenic vistas, damage scenic resources, nor create a new source of substantial light or glare. SDG&E's APMs 48 and 49 would also minimize visual effects in this area by using conductor and pole materials that minimize glare and reduce color and texture contrasts

Miguel Substation to South Bay Power Plant Area

The visual impacts from the new 230 kV monopoles, conductors and related hardware would be long-term. The proposed project would affect views from a number of residential communities, parks, and roadways, including highways and roadways that are eligible as State Scenic Highways or are classified as scenic roadways by the City of Chula Vista. Views from the following roadways would be affected by the proposed overhead poles and conductors, between the Miguel Substation and the South Bay Power Plant Area: SR 125 (under construction), Fourth Avenue (Chula Vista Scenic Roadway) and East H Street (Chula Vista Scenic Roadway). Visual Impacts to views from these roadways would be less than significant (Class III) due to the short-duration of views.

The proposed project would alter existing views from a number of other public roadways, park and recreation areas, and residential communities. The long-term impacts to community character and visual quality are described below for 27 KOPs that are representative of viewer groups and viewing conditions within the project area between the Miguel Substation and South Bay Power Plant Area. Supporting the KOP evaluations are computer-generated visual simulations of the proposed project from each KOP. The visual simulations have been prepared based on technical engineering information provided by SDG&E on each pole's design and height. This information has been used to accurately and objectively portray the proposed project from key viewing locations and serve as the bases for the visual impact findings in this section. Key observation points and simulations provided by SDG&E as part of the PEA (March 2004) have also been incorporated into this analyses. SDG&E's APMs 48 and 49 would minimize glare and texture contrasts by using non-

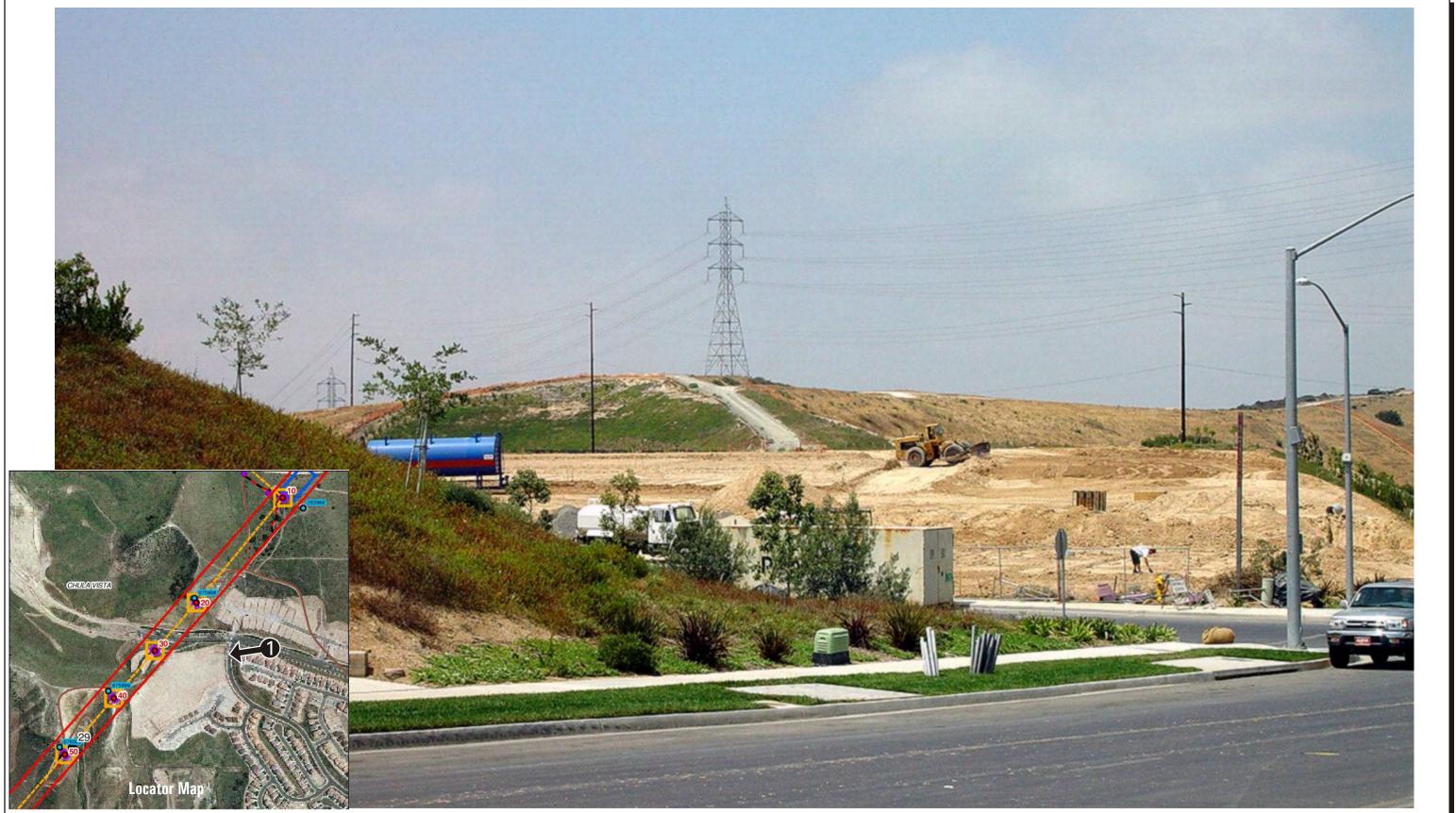
specular materials for poles and conductors. Other applicable APMs that have been considered in preparing the visual simulations and visual impact analysis include pole placements (APMs 61, 62 and 68), and landscape enhancements (APM 69) The visual analysis and conclusions for the 230 kV structures and conductors are discussed below.

KOP No. 1 – (Future) Residential – Mount Miguel Road, East (*Figures D.13-2A and D.13-2B*)

Figures D.13-2a and D.13-2b present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 1. This viewing location is from a future residential development that is currently being built along Mount Miguel Road, east of Avenida Beltera. SDG&E's proposed structures no. 30 and no. 40 would be visible from this location and would be elevated on hillsides to the west. The proposed monopole tangent structures would be 145 feet and 110 feet respectively, compared to 107 feet heights for the existing lattice towers. Distribution lines and poles are also part of the existing setting. The increased height of the Proposed Project poles, combined with their locations on elevated hillsides, would result in the new structures being skylined and highly visible within the immediate foreground viewing distance. Partial screening may be provided, however, by the residential homes that are currently being built in this new development, however, some homes would have unobstructed views to the ROW and existing and future transmission facilities. SDG&E has proposed APM 67 that would provide some partial landscape screening. The new and increased structure skylining caused by the Proposed Project, within a foreground viewing distance, would nonetheless result in a moderate to high degree This overall visual change would occur at a future residential of overall visual change. neighborhood that is considered to be of potential high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. (This impact would remain Significant (Class I) with Transmission System Alternative 7. See Section D.13.4.2). While still remaining Significant (Class I), the following mitigation measure is recommended to reduce visual changes to the extent feasible:

Mitigation Measure for Impact V-2, Long-Term Visual Impacts

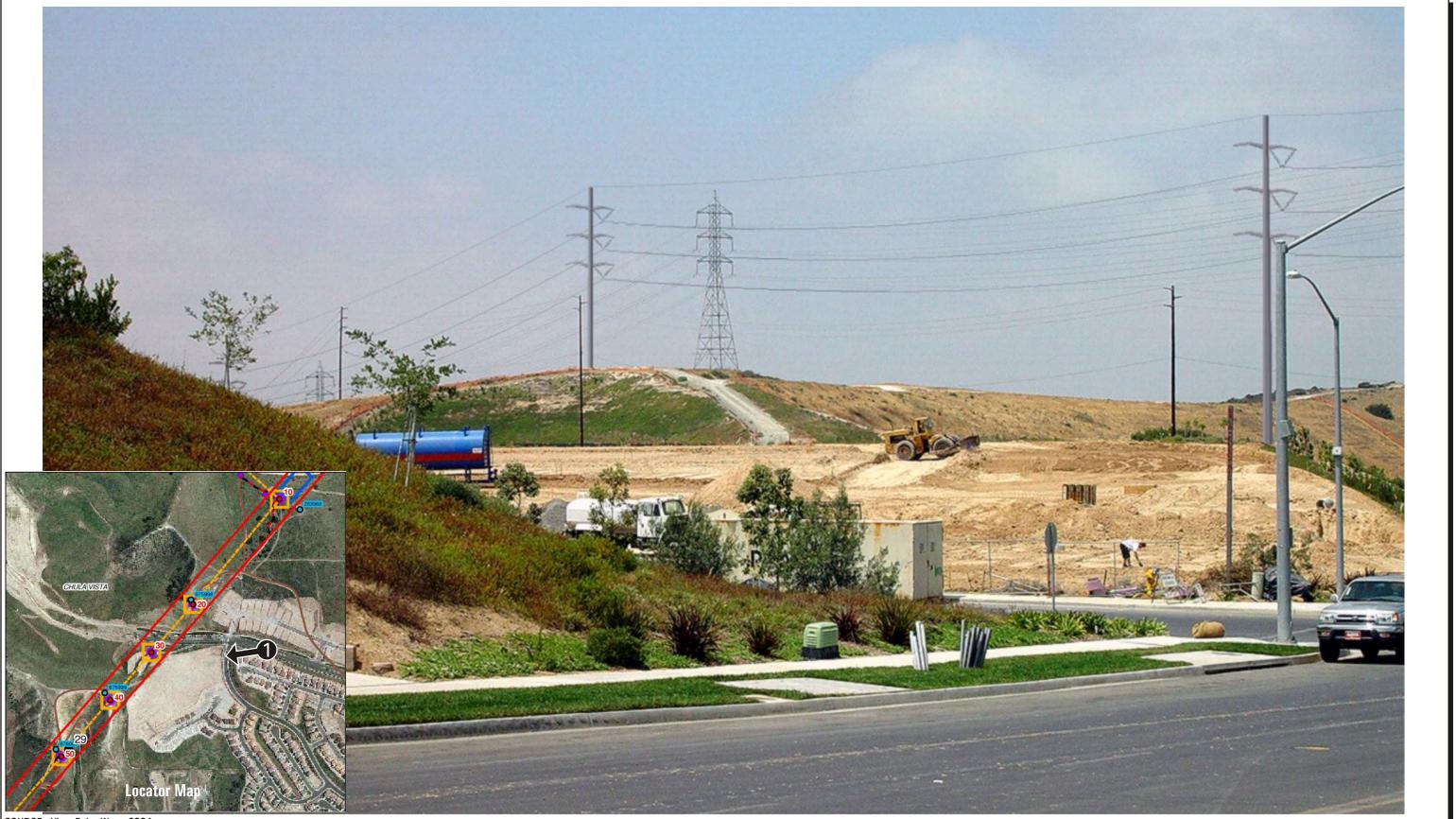
V-2a Reduce visual contrasts of monopoles and insulators. It is recommended that monopoles and insulators be a neutral non-reflective material and tone (grey or tan) that would be visually compatible and similar to urban design standards for light poles and/or other similar streetscape facilities. SDG&E should coordinate with the County of San Diego, or the City of Chula Vista, as applicable, in the selection of the most visually appropriate materials for the proposed facilities within their jurisdictions. Results of the coordination shall be submitted to the CPUC prior to construction.



The **existing view** is to the west from a future residential area, east of Avenida Beltera. SDG&E's existing 138kV lattice structures and conductors are openly visible, within a foreground viewing distance, and elevated on the hillside.

OMPPA Transmission Project EIR KOP 1-(Future) Residential - Mount Miguel Road - Existing View

figure D.13-2A



The proposed 230kV monopole structures (No. 30 and 40) and conductors are shown in this **visual simulation**. The closest proposed structure, No. 30, would be 145' in height, compared to the 107' tall existing lattice tower. Located adjacent to viewers on the elevated hill, the proposed monopoles and conductors would be visually dominant with the existing lattice structures and lines, and would create strong visual contrasts.

OMPPA Transmission Project EIR KOP 1-(Future) Residential - Mount Miguel Road - Visual Simulation

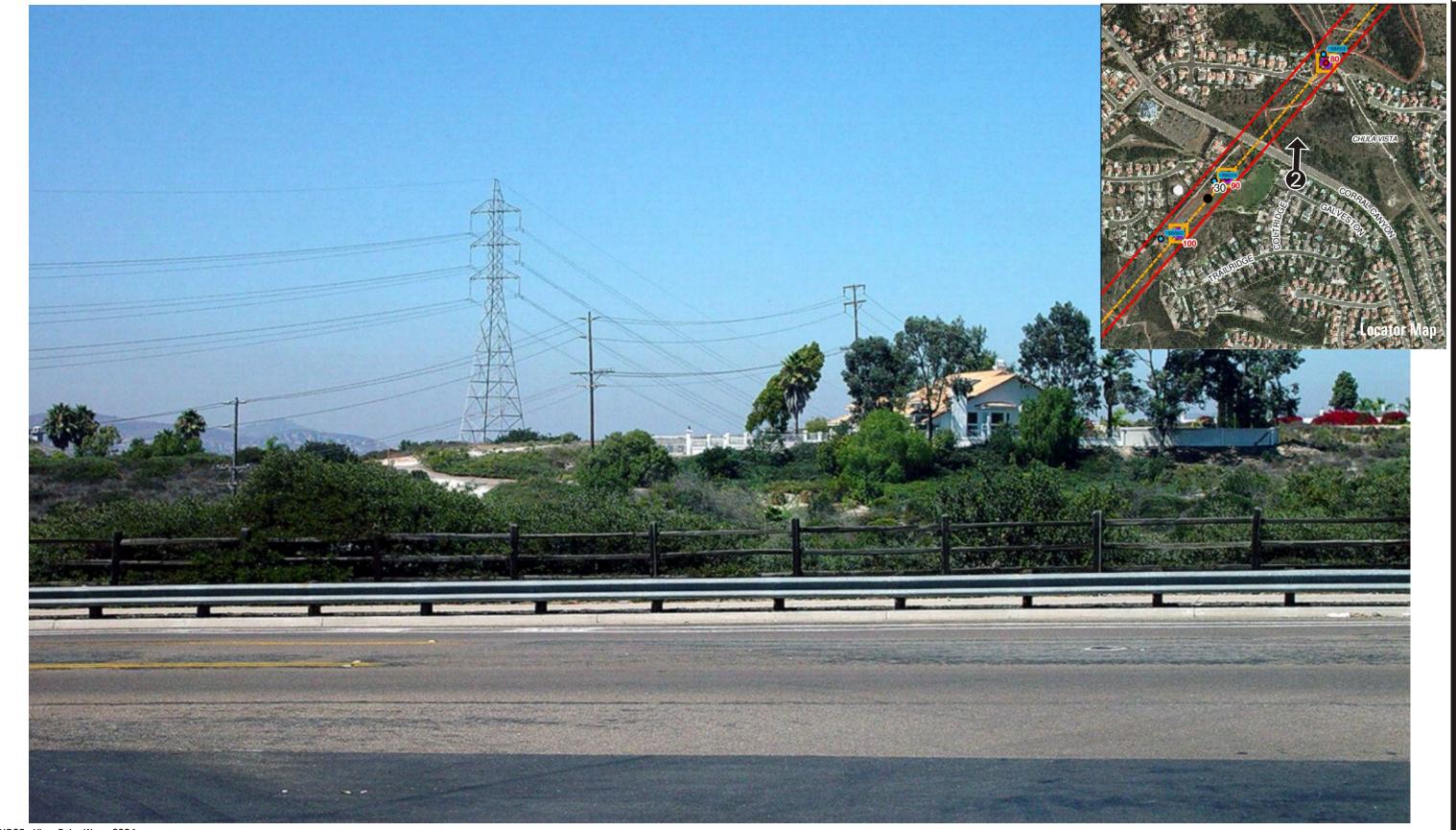
figure D.13-2B

KOP 2 – Residential - Coltridge Lane (*Figures D.13-3A and D.13-3B*)

Figures D.13-3A and D.13-3B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 2. This viewing location is from the intersection of Coltridge Lane and Corral Canyon Road, and shows views typical of residential homes adjoining Corral Canyon Road with views to the north. SDG&E's proposed structure no. 80 would be visible within a foreground viewing distance, and openly skylined on the ridgeline. The proposed monopole tangent structure would be 135 feet, compared to 130 feet for the existing lattice tower. Located south of, and closer to the viewer at KOP, the monopole structure would appear taller, however, due to both the relative position of the new structure to the viewer, as well as the base elevation differences which would place the proposed monopole 15 feet higher than the existing lattice tower. The increased height of the pole, combined with its location on the ridgeline, would result in the new structure being skylined and highly visible. The visual change would also be affected by the installation of the 230 kV circuit conductors. The new and increased facility skylining caused by the OMPPA structures and conductors would result in a moderate to high degree of overall visual change. This overall visual change would occur within a foreground viewing distance of an existing residential neighborhood that is considered to be of potential high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. While impacts still remain Significant (Class I), Mitigation Measure V-2a is recommended to reduce impacts to the extent feasible. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2 and Figure D.13-3C).

KOP 3 – Bonita Long Canyon Park (Figure D.13-4A and D.13-4B)

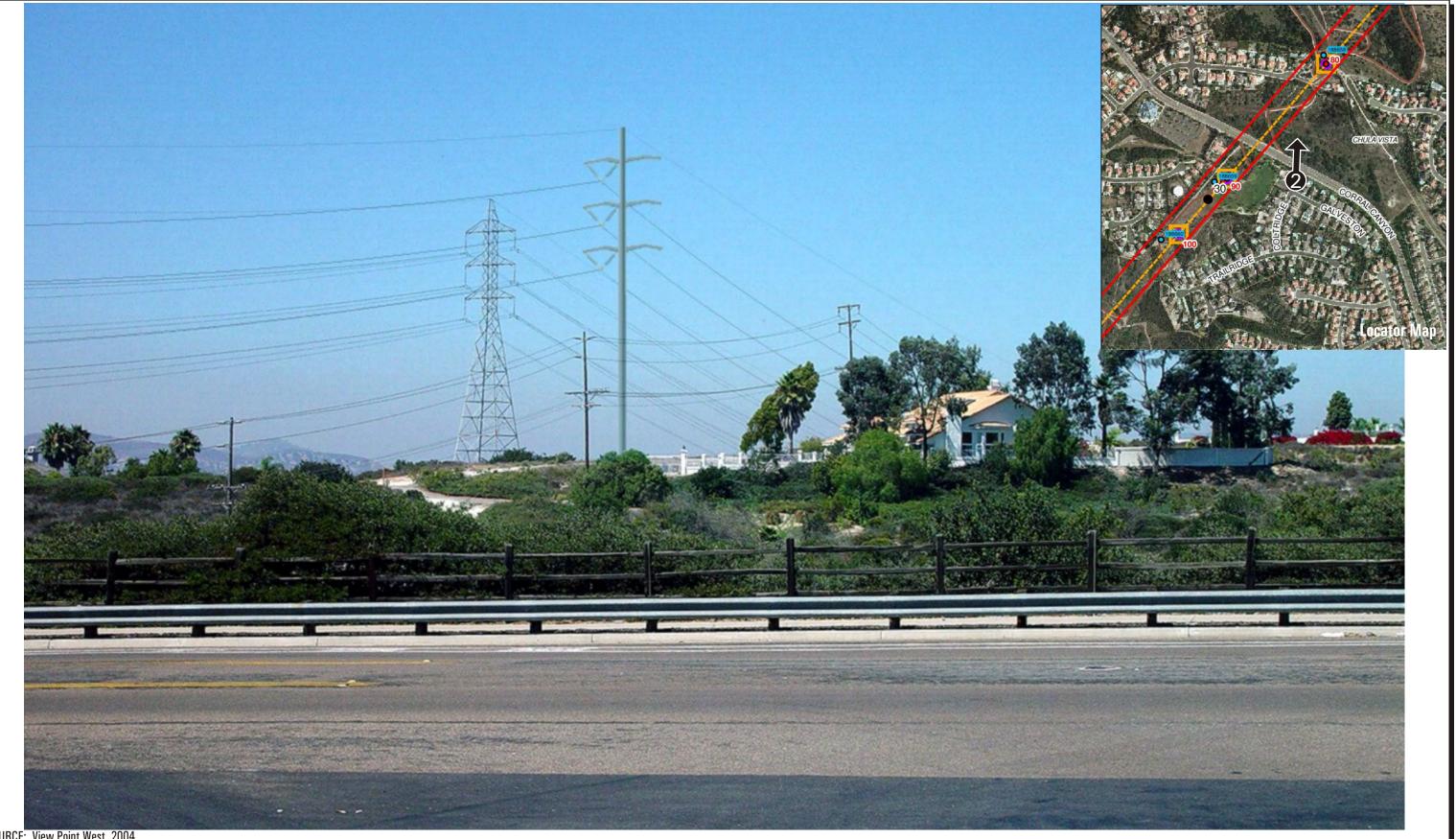
Figures D.13-4A and D.13-4B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 3. This viewing location is from Bonita Long Canyon Park, and shows typical views to the west. SDG&E's proposed monopole tangent structures no. 90 and no.100 would be openly visible within a foreground viewing distance, and skylined on the gently rising hill to the west. Both of the proposed monopole tangent structures would be 135 feet tall, compared to the existing lattice towers that are 107 feet and 120 feet in height, respectively. Structure no. 90 would be perceived as substantially taller than the existing lattice structures, however, due to its closer proximity to park viewers, and differences in base elevation which would result in an overall height increase of 41 feet, when compared to the adjacent lattice tower. The overall degree of visual change, created by both the new monopole structures and 230 kV circuits, would consequently be high. This overall visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. (This impact would be mitigated to less than significant by



The **existing residential view** is to the north, from Coltridge Lane, near the intersection of Corral Canyon Road. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 2 - Residential - Coltridge Lane - Existing View

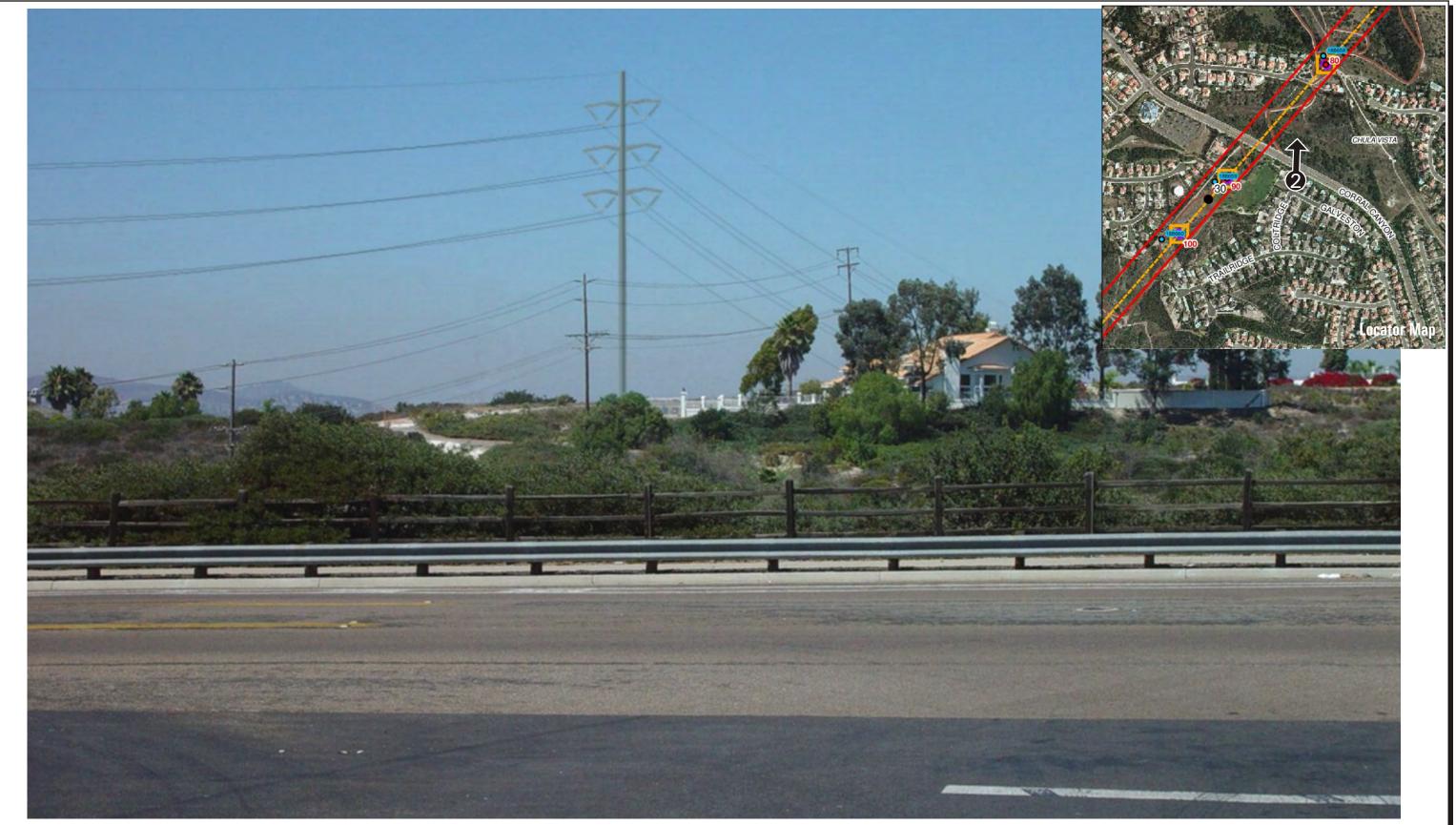
figure D.13-3A



The proposed 230kV monopole structure (No. 80) and conductors are shown in this visual simulation. The proposed structure would be 135' in height, similar to the existing 130' tall lattice tower. Located adjacent and closer to viewers on the hill, the proposed monopole and conductors would be visually co-dominant with the existing lattice structure and lines, and would create strong visual contrasts.

OMPPA Transmission Project EIR KOP 2 - Residential - Coltridge Lane - Visual Simulation

FIGURE D.13-3B



The proposed 230kV monopole structure (No. 80) and 230/138kV conductors are shown in this **visual simulation**, along with the removal of the existing 138kV lattice tower and one of the 138kV conductors. The proposed 230kV monopole structure would be 135' in height, similar to the existing 130' tall lattice tower that would be removed. The overall design and scale of the new monopole would be visually more compatible with other existing urban features, than the lattice tower. Consequently, the cumulative visual change of removing the lattice tower and conductor, and installing the proposed monopole and conductors, would be low. (Class III)

OMPPA Transmission Project EIR KOP 2 - Residential - Coltridge Lane - Visual Simulation - Transmission System Alternative 7

figure D.13-3C



existing facilities.



SOURCE: View Point West, 2004

The proposed 230kV monopole structures (No. 90 and 100) and conductors are shown in this visual simulation. The proposed structures would both be 135' in height, compared to the existing lattice towers that are 107' and 120' tall. Due to differences in the base elevations, the new monopole closest to viewers (no. 90) would be 41 feet taller in elevation than the adjacent lattice tower. Located adjacent and closer to viewers, the proposed monopoles would be visually dominant, and would create strong visual contrasts.

OMPPA Transmission Project EIR KOP 3 - Bonita Long Canyon Park - Visual Simulation

FIGURE D.13-4B Transmission System Alternative 7. See *Section D.13.4.2*). While still remaining Significant (Class I), Mitigation Measure V-2a is recommended to reduce impacts to the extent feasible. In addition, the following measure is recommended:

Mitigation Measure for Impact V-2, Long-Term Visual Impacts

V-2b Reduce long-term visual contrasts with landscape enhancements at parks and recreation areas. It is recommended that SDG&E provide landscape enhancements at parks and recreation facilities that are directly impacted by the overhead 230 kV monopoles and conductors. SDG&E should coordinate with the City of Chula Vista, to determine the need for, and appropriate plant materials for mitigating the visibility and contrasts of the proposed facilities within park settings. Results of coordination shall be submitted to the CPUC prior to construction.

KOP 4 – Residential - Pepperwood Court (Figures D.13-5A and D.13-5B)

Figures D.13-5A and D.13-5B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 4. This viewing location is from a residential location on Pepperwood Court, and shows typical views to the east. SDG&E's proposed monopole tangent structure no.100 would be openly visible within a foreground viewing distance, and partially screened by intervening residential landscaping. The proposed monopole tangent structure would be 135 feet tall, compared to the existing lattice tower (120 feet tall). The new structure would be perceived as shorter than the existing lattice tower, however, due to its location farther from viewers and differences in base elevations. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 6 feet shorter in height than the existing lattice tower. SDG&E has proposed APM 67 that could provide some partial landscape screening. The overall degree of visual change, created by both the new monopole structures and 230 kV circuits, would nonetheless be moderate to high. The proposed project would result in strong visual contrasts due to the height and scale of the new 135 foot tall monopole that would be seen in close proximity to residential homes. The conductor and insulators would also be clearly visible at this distance, thus contributing to the overall degree of visual change. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2). While visual impacts still remain Significant (Class I), Mitigation Measure V-2a is recommended.



The **existing residential view** is to the east, from Pepperwood Court. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance. Intervening homes and exotic landscaping provide partial screening of the tower.

OMPPA Transmission Project EIR KOP 4 - Residential - Pepperwood Court - Existing View

figure D.13-5A



The proposed 230kV monopole structure (No. 100) and conductors are shown in this **visual simulation**. Located further from the viewer, the proposed 135' tall monopole structure appears similar or slightly smaller in scale than the 120' tall lattice tower. The proposed monopole would be visually co-dominant with the existing lattice structure, and would be partially screened by intervening homes and landscaping. Strong to moderate visual contrasts would result from the proposed structure and conductors.

OMPPA Transmission Project EIR KOP 4 - Residential - Pepperwood Court - Visual Simulation

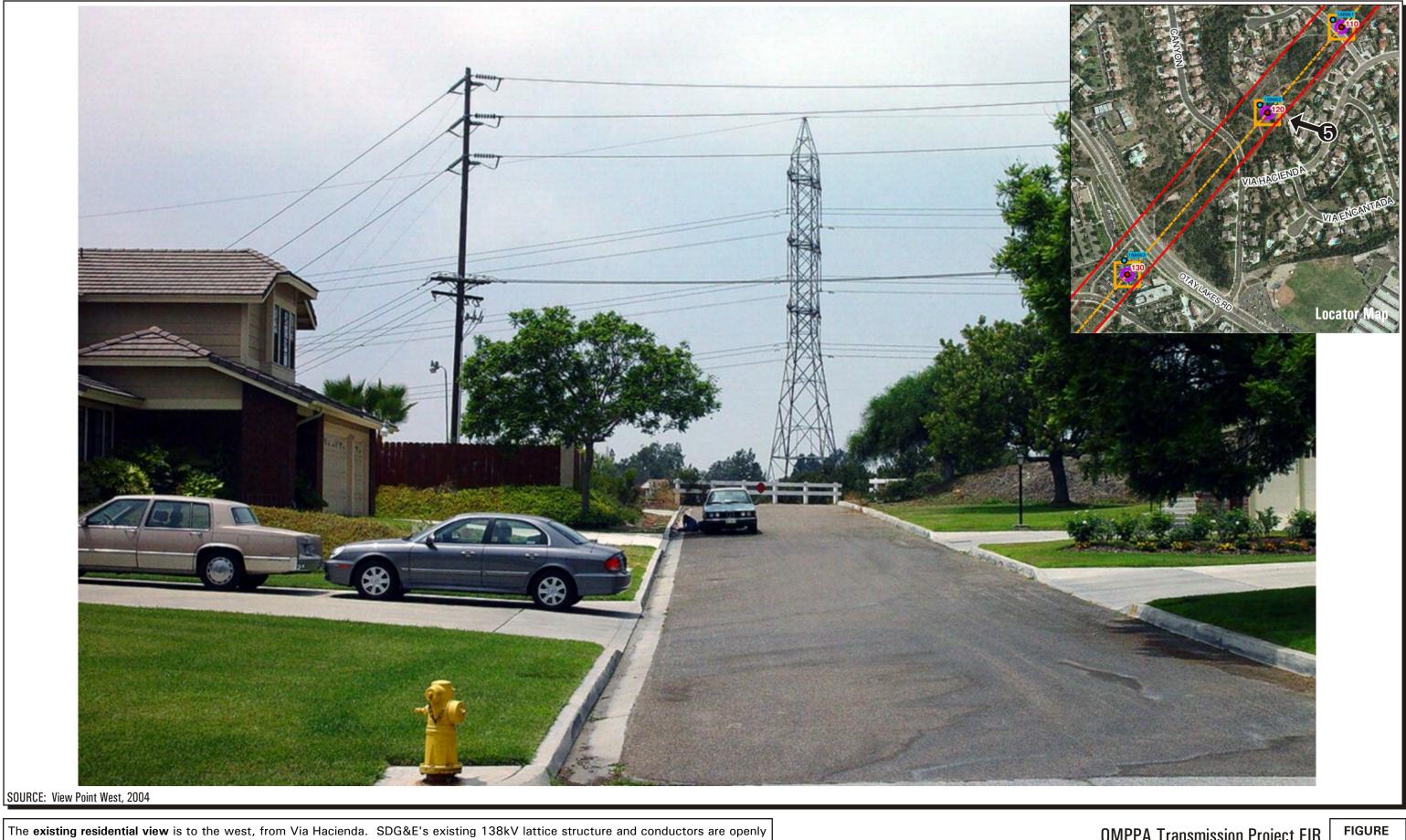
figure D.13-5B

KOP 5 – Residential - Via Hacienda (*Figures D.13-6A and D.13-6B*)

Figures D.13-6A and D.13-6B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 5. This viewing location is from a residential neighborhood along Via Hacienda looking to the west. SDG&E's proposed monopole tangent structure no.120 would be openly visible within a foreground viewing distance. From this viewpoint, the proposed monopole tangent structure perceived as substantially taller than the existing lattice tower, due to its location closer to viewers and differences in structure heights and base elevations. The proposed monopole structure would be 135 feet in height, compared to 97 feet for the lattice tower. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 41 feet taller in height than the existing lattice tower. SDG&E has proposed APM 67 that could provide some partial landscape screening. Nonetheless, the overall degree of visual change created by both the new monopole structures and 230 kV circuits would be high. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2). While still remaining Significant (Class I), Mitigation Measure V-2a is also recommended.

KOP 6 – Otay Lakes Road (Figures D.13-7A and D.13-7B)

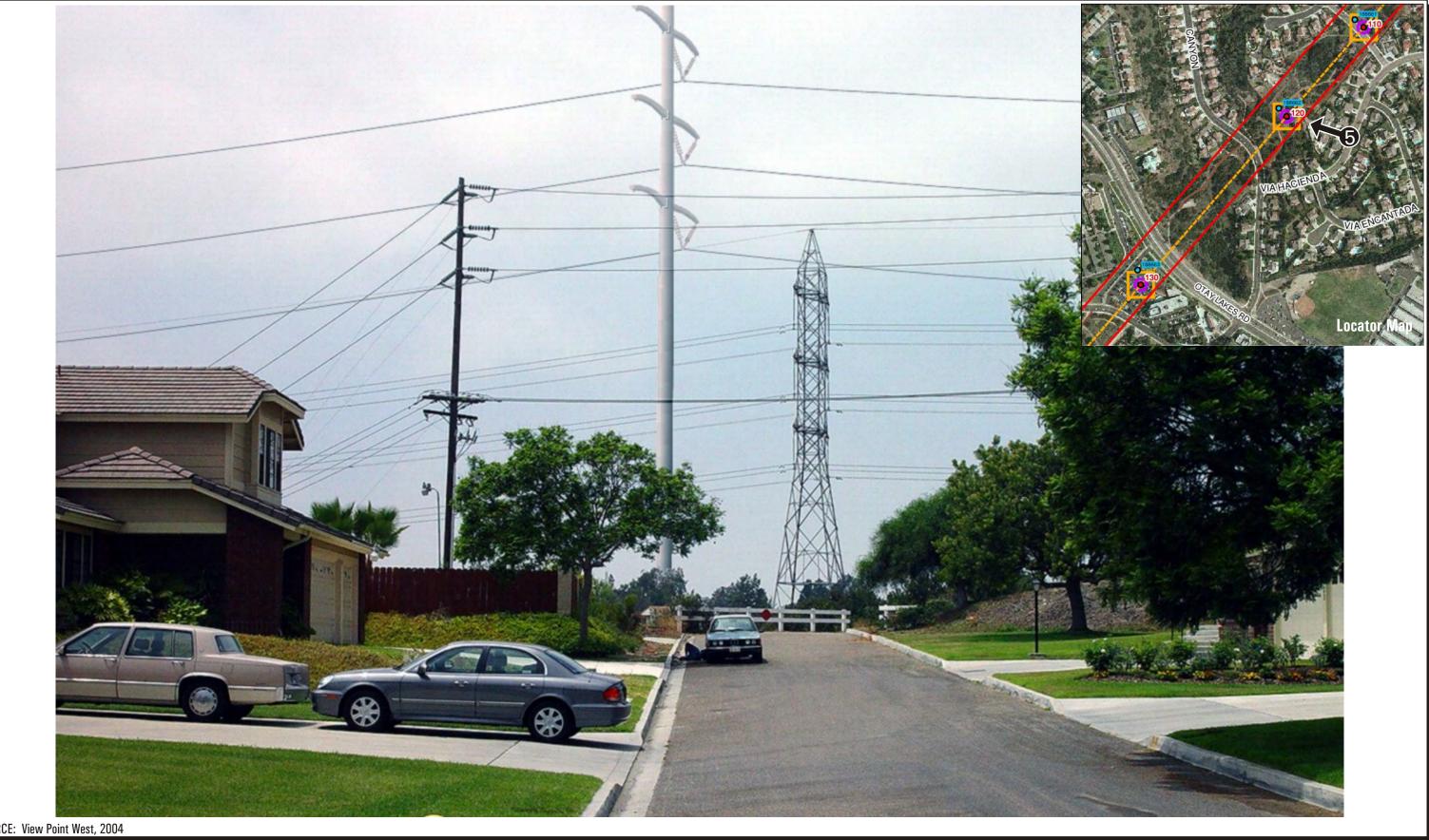
Figures D.13-7A and D.13-7B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 6. This viewing location is from Otay Lakes Road, looking south. The location is along a stretch of road that is characterized by mixed commercial and public uses. SDG&E's proposed monopole tangent structure no. 130 would be openly visible within a foreground viewing distance. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 13 feet taller in height than the existing lattice tower. The proposed monopole structure would be 140 feet in height, compared to 125 feet for the lattice tower. From this viewpoint, the proposed monopole tangent structure would be perceived as similar to, or slightly less dominant than the existing lattice tower, however, due to its location farther from viewers, the similar heights of the transmission structures, and the scale of surrounding commercial structures. In addition, commercial areas are not considered to be as visually sensitive as other land uses (e.g. residential, park, or roadways), due to the type of use and less viewer sensitivity to change. The overall degree of visual change created by both the new monopole structures and 230 kV circuits would consequently be moderate. This overall visual change would occur within a foreground viewing distance along a local roadway where views would be intermittent and of short-duration. The visual sensitivity of the road is assessed as moderate and



visible, within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 5 - Residential - Via Hacienda - Existing View

D.13-6A



The proposed 230kV monopole structure (No. 120) and conductors are shown in this visual simulation. Located closer to the viewer, the proposed 135' tall monopole structure appears substantially taller and greater in scale than the 97' tall lattice tower. The proposed monopole and conductors would be visually co-dominant with the existing lattice structure and lines. Visual contrasts would be strong.

OMPPA Transmission Project EIR KOP 5 - Residential - Via Hacienda - Visual Simulation

FIGURE D.13-6B



The existing roadside view is from Otay Lakes Road, looking south towards SDG&E's existing 138kV lattice structure and conductors, and the Bonita Athletic Club. Views to SDG&E's facilities are open and within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 6 - Otay Lakes Road - Existing View

FIGURE D.13-7A



The proposed 230kV monopole structure (No. 130) and conductors are shown in this **visual simulation**. Located slightly farther from the viewer, the proposed 140' tall monopole structure appears similar, or slightly smaller in scale than the 125' tall lattice tower. The proposed monopole would be visually dominant with the existing lattice structure. Visual contrasts would be strong, although viewing duration would be short-term and transient in nature.

OMPPA Transmission Project EIR KOP 6 - Otay Lakes Road - Visual Simulation

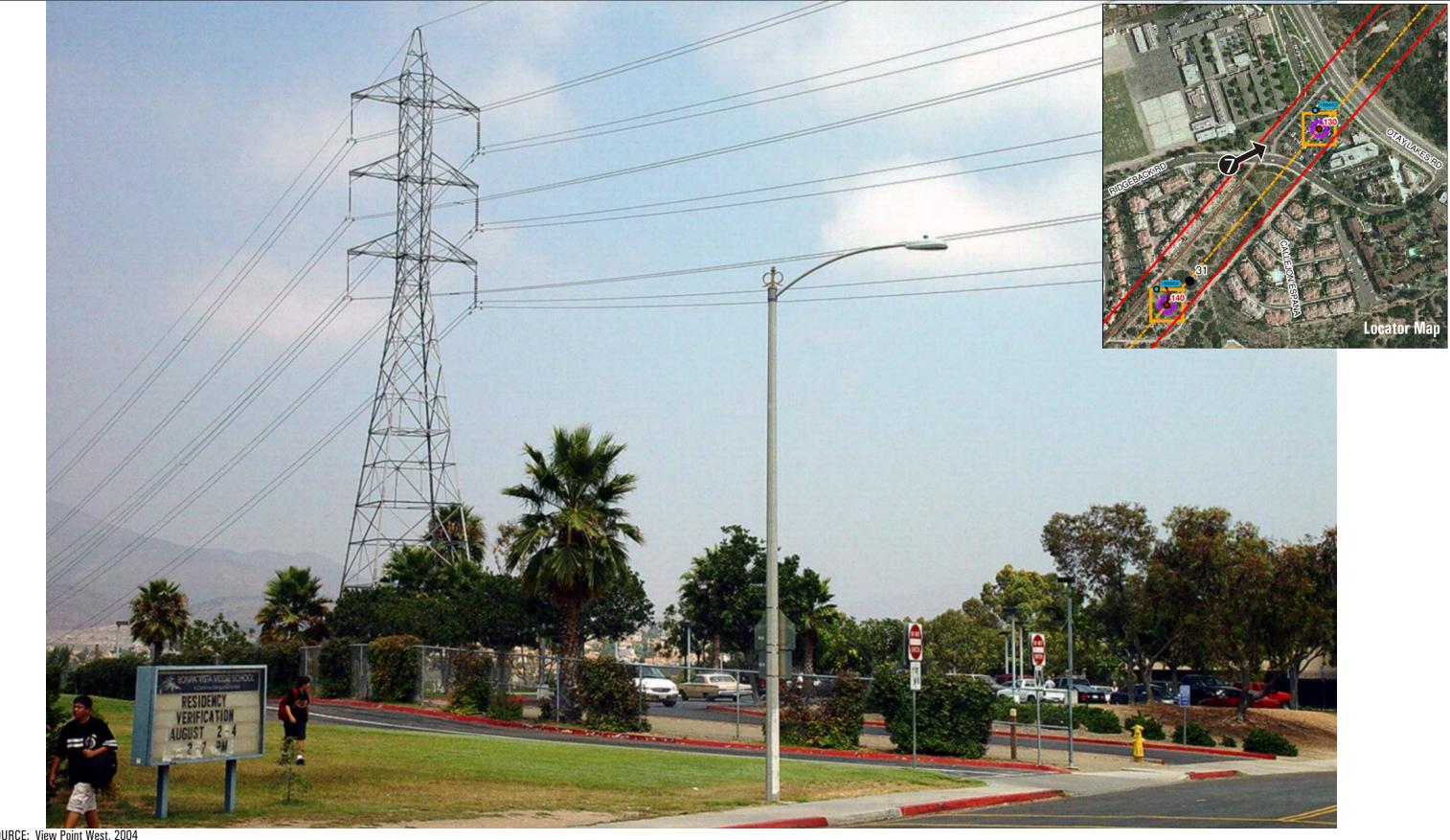
figure D.13-7B the visual impacts would be mitigated to less than significant (Class II) with implementation of Mitigation Measure V-2a.

KOP 7 – Bonita Vista Middle School and Residential (Figures D.13-8A and D.13-8B)

Figures D.13-8A and D.13-8B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 7. This viewing location is from a residential neighborhood on Ridgeback Road looking east at structure 130 and the Bonita Vista Middle School. From this viewing location, SDG&E's proposed monopole tangent structure no. 130 would be openly visible near the school parking lot and seen within a foreground viewing distance. As noted above for KOP 6, the proposed monopole would be 140 feet tall, compared to 125 feet for the lattice tower. From this viewpoint, the proposed monopole tangent structure would be perceived as similar to, or slightly taller than the existing lattice tower, however, due to its location closer to viewers. The visual sensitivity of this area, given the proximity to residences, is assessed as high. The overall degree of visual change created by both the new monopole structures and 230 kV lines would be moderate to high. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2 and Figure D.13-8C). SDG&E has proposed APM 67 and 68 to partially screen the proposed facilities and minimize visual contrasts to the extent feasible. While still remaining Significant (Class I), Mitigation Measure V-2a is also recommended to reduce visual impacts.

KOP 8 – Discovery Park (Figures D.13-9A and D.13-9B)

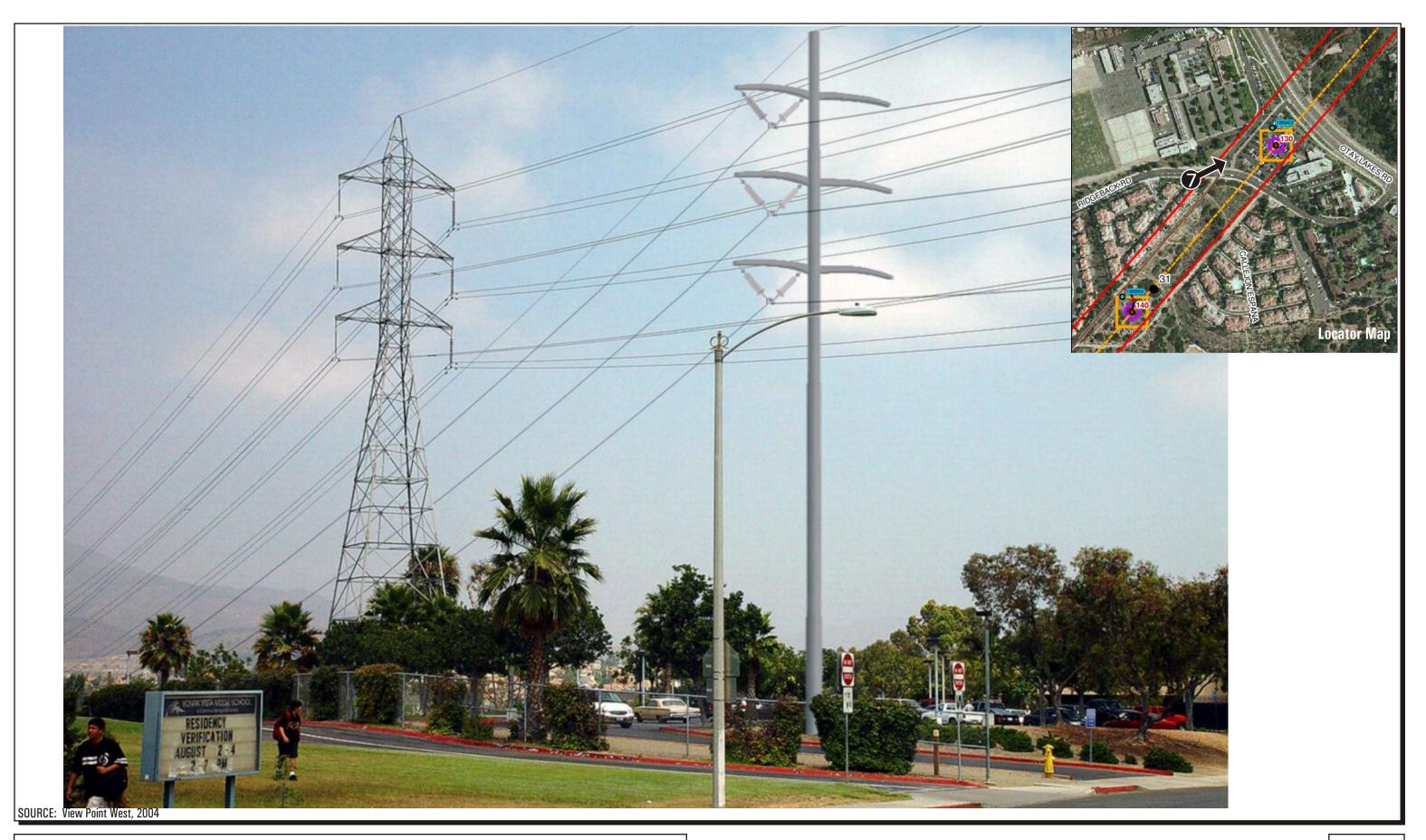
Figures D.13-9A and D.13-9B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 8. This viewing location is from Discovery Park, and shows typical views to the northeast. SDG&E's proposed monopole tangent structures no. 140 would be openly visible and elevated and on the hill to the north of the park. The new monopole would be 145 feet tall, compared to the existing lattice structure, that rises 107 feet, and openly skylined. Overall, the proposed monopole structure would be visually dominant, due to its location of the elevated hill, increased height, and closer proximity to the viewers, when compared to the adjacent lattice tower. The overall degree of visual change created by both the new monopole structures and 230 kV lines would consequently be high. This overall visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Consequently, the visual impacts would be significant, due to the open and elevated visibility conditions afforded. SDG&E has proposed APM 67 and 68 to partially screen the proposed facilities and minimize visual contrasts to the extent feasible. While still remaining Significant (Class I), Mitigation Measures V-2a and V-2b are also



The existing public school and residential view is looking east, from Ridgeback Road. Located adjacent to the Bonita Vista Middle School parking lot, SDG&E's existing 138kV lattice structure and conductors are openly visible and prominent, and seen from a foreground viewing distance.

OMPPA Transmission Project EIR KOP 7 - Bonita Vista Middle School & Residential - Existing View

FIGURE D.13-8A



The proposed 230kV monopole structure (No. 130) and conductors are shown in this **visual simulation**. Located within the parking lot and closer to the viewer, the proposed 140' tall monopole structure appears noticeably taller than the 125' tall lattice tower. The proposed monopole and conductors would be visually dominant with the existing lattice structure and lines. Visual contrasts would be strong.

OMPPA Transmission Project EIR KOP 7 - Bonita Vista Middle School & Residential - Visual Simulation

figure D.13-8B



The proposed 230kV monopole structure (No. 130) and 230/138kV conductors are shown in this **visual simulation** along with the removal of the existing lattice tower and 138kV conductor. The proposed 140' tall monopole structure would be noticeably taller than the 125' tall lattice tower that would be removed. While the proposed monopole and conductors would be visually dominant from the school parking lot, the design and scale of the new monopole would be visually more compatible with other existing urban features, than the lattice tower. Consequently, the cumulative visual change of removing the lattice tower and conductor, and installing the proposed monopole and conductors, would be low to moderate. (Class III)

OMPPA Transmission Project EIR KOP 7 - Bonita Vista Middle School & Residential - Visual Simulation - Transmission System Alternative 7

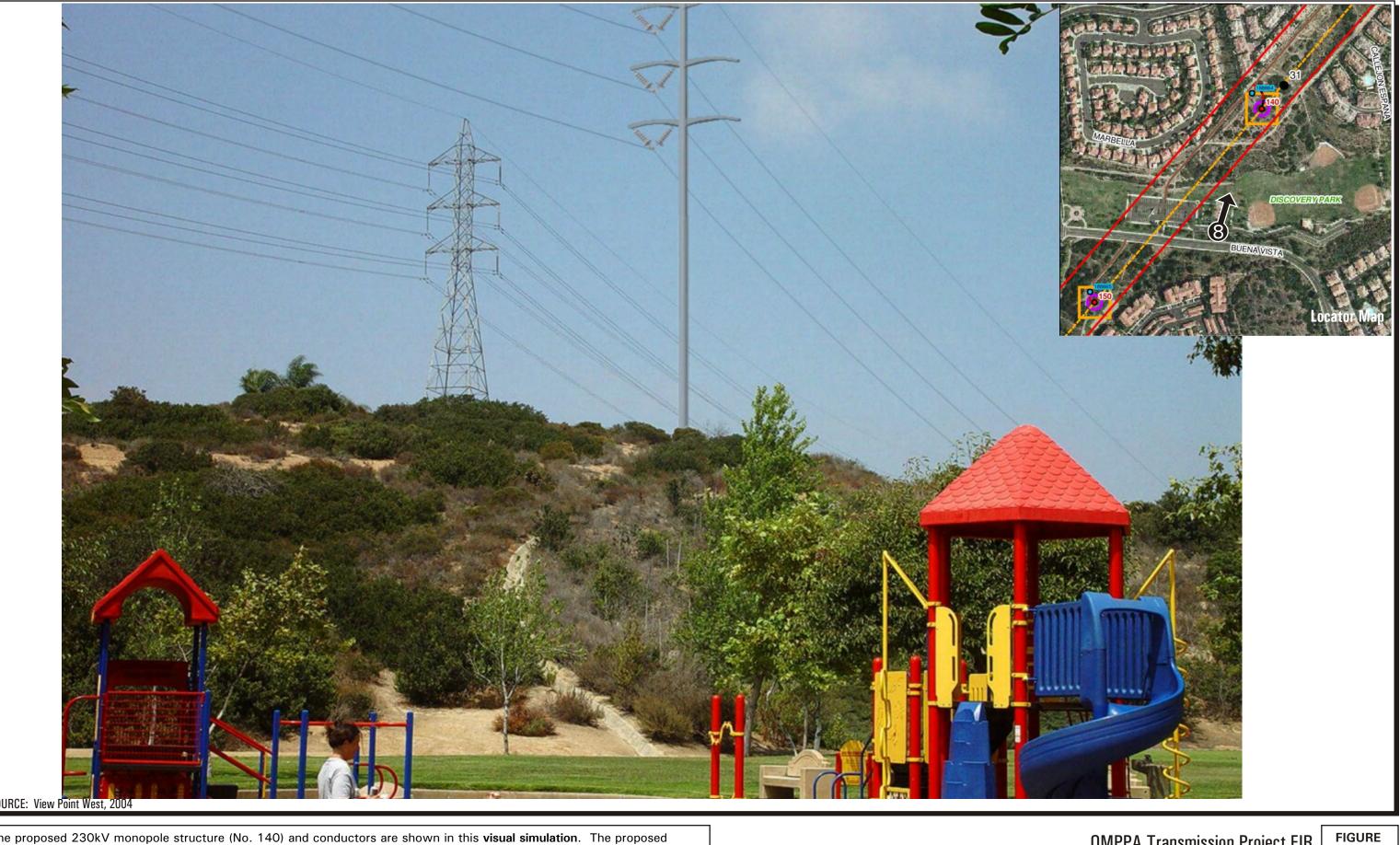
figure D.13-8C



The existing park view is to the northeast, from Discovery Park. SDG&E's existing 138kV lattice structure and conductors are openly visible and elevated on a hillside.

OMPPA Transmission Project EIR KOP 8 - Discovery Park - Existing View

FIGURE D.13-9A



The proposed 230kV monopole structure (No. 140) and conductors are shown in this visual simulation. The proposed structure would be 145' in height, compared to the existing lattice tower that is 107' tall. Located adjacent and closer to park viewers and on an elevated hill, the proposed monopole and conductors would be visually dominant, creating strong visual contrasts.

OMPPA Transmission Project EIR **KOP 8 - Discovery Park - Visual Simulation**

D.13-9B



proposed 230kV monopole would be 145' in height, compared to the 107' tall lattice tower that would be removed. The proposed monopole and conductors would be visually dominant from the park on the elevated hill. Cumulatively, however, the design and scale of the new monopole would be visually more compatible with other existing urban features, than the lattice tower. The cumulative visual change of removing the lattice tower and conductor, and installing the proposed monopole and conductors, would be low to moderate. (Class III)

KOP 8 - Discovery Park - Visual Simulation - Transmission System Alternative 7

D.13-9C

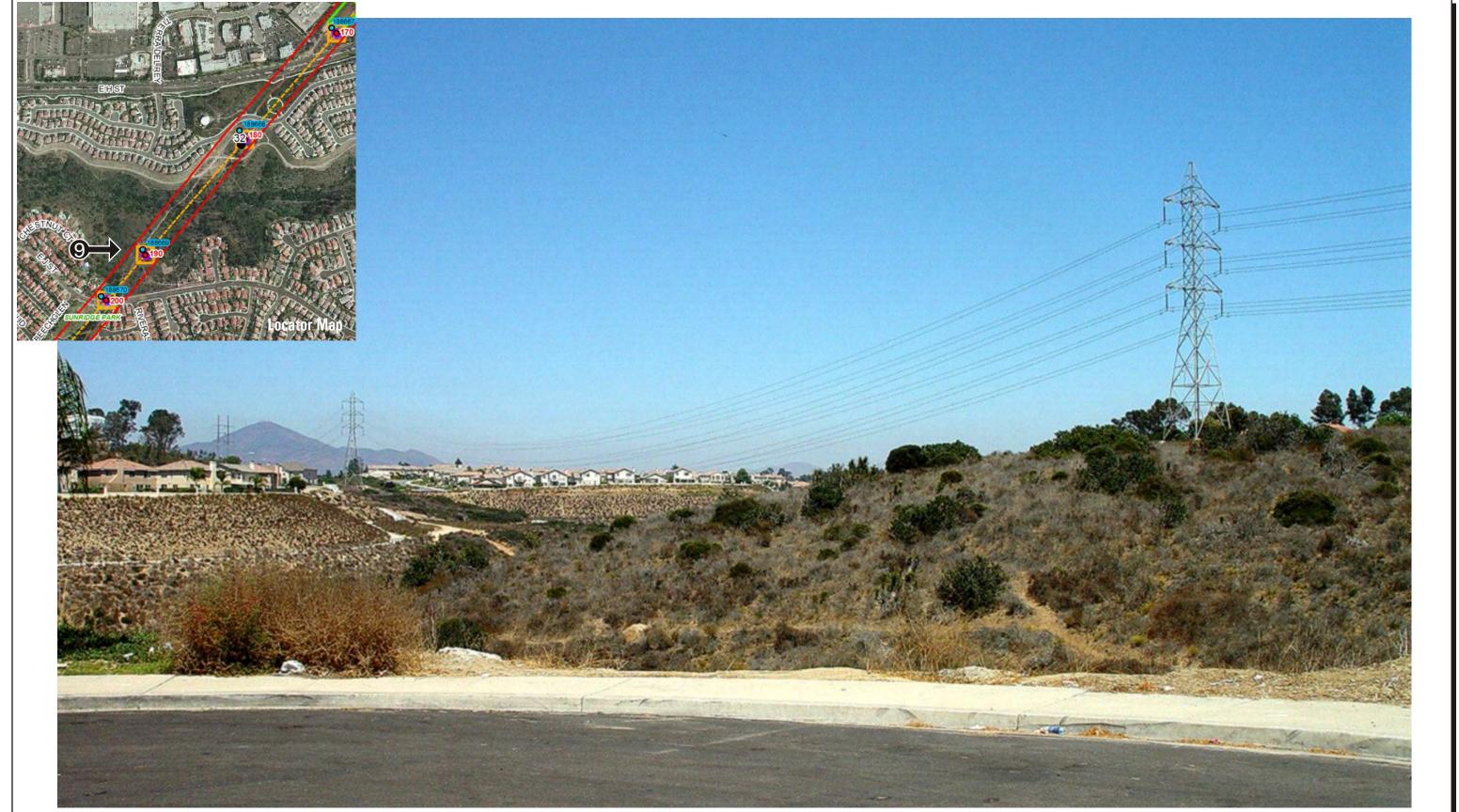
recommended to reduce visual impacts. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See *Section D.13.4.2* and *Figure D.13-9c*).

KOP 9 – Residential - Chestnut Court (Figures D.13-10A and D.13-10B)

Figures D.13-10A and D.13-10B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 9. This viewing location is from a residential neighborhood along Chestnut Court, looking east. From this viewpoint, long views to three of SDG&E's proposed monopoles would occur within foreground to middleground viewing distances. Proposed monopole tangent structures 170, 180, and 190 would range in height from 115 feet to 140 feet, compared to the existing lattice towers, that are 97 feet to 107 feet in height. All structures would be openly visible and skylined on the mesa. The overall degree of visual change or contrast, created by both the new monopole structures and 230 kV lines, would, consequently, be high and caused by both the structures and long views to the conductors as well. This overall visual change would occur within foreground and middleground viewing distances of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2). While still remaining Significant (Class I), Mitigation Measure V-2a is recommended to reduce visual contrasts to the extent feasible.

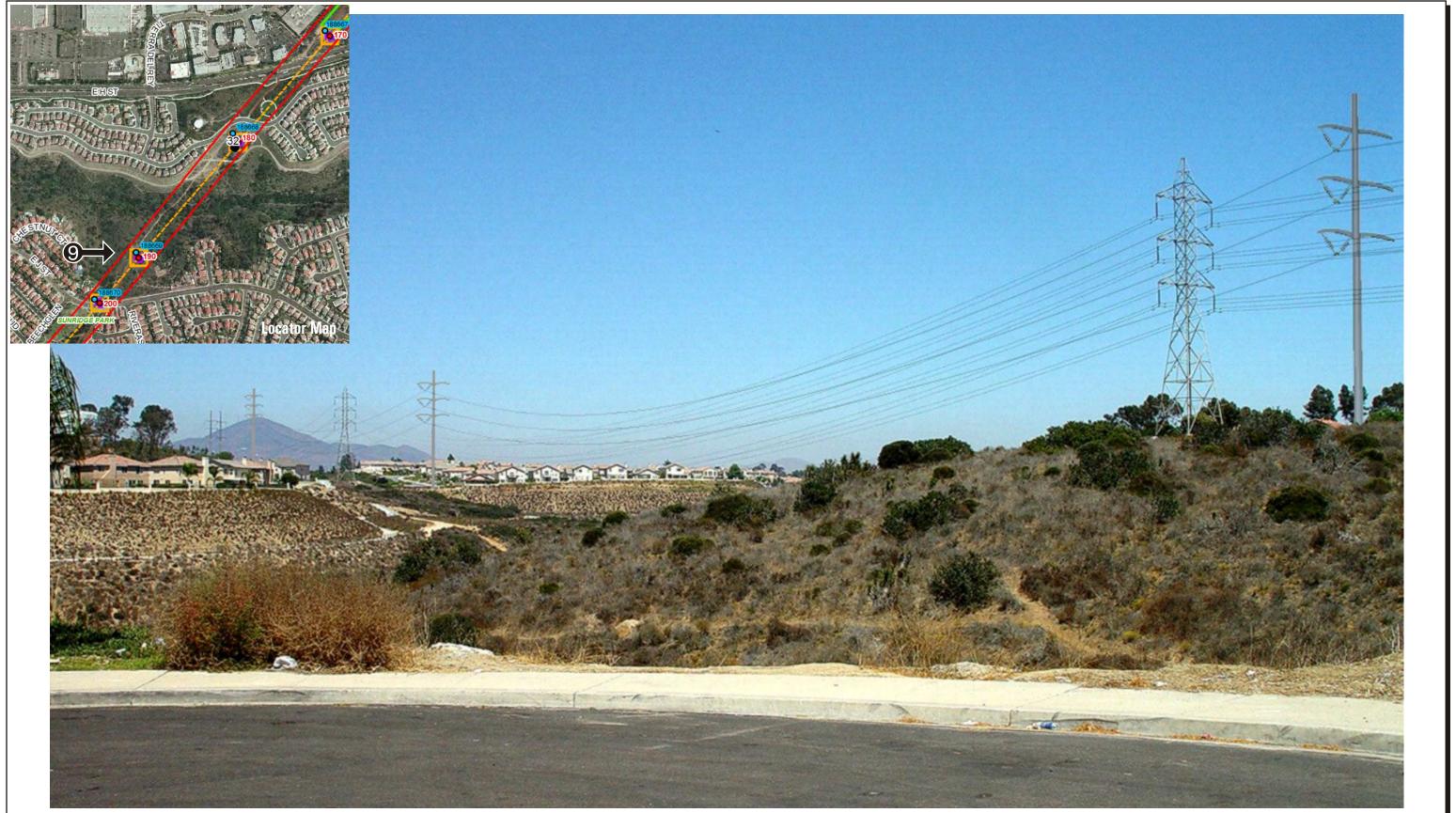
KOP 10 – Sunridge Park (Figures D.13-11A and D.13-11B)

Figures D.13-11A and D.13-11B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 10. This viewing location is from Sunridge Park, and shows typical views to the northeast. SDG&E's proposed monopole tangent structures no. 170, 180, 190 and 200 would be visible within a foreground viewing distance, and openly skylined given the ROW's location through the park. The proposed monopole tangent structures would range in height from 115 feet to 140 feet, compared to the existing lattice towers that range in height from 97 feet to 107 feet. While none of the structures would be located within the developed park area itself, the ROW crosses the park, and proposed structure 200 would be immediately adjacent to the park. This structure would be most visible, and would be approximately 30 feet taller than the adjacent lattice structure, considering both differences in the structure heights and base elevations. The overall degree of visual change created by both the new monopole structures and 230 kV lines would be high. This overall visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. (This impact would be mitigated to less than significant by Transmission



The existing residential view is to the east, from Chestnut Court. Three of SDG&E's existing 138kV lattice structures and conductors are openly visible, within a foreground to middleground viewing distance.

OMPPA Transmission Project EIR KOP 9 - Residential - Chestnut Court - Existing View D.13-10A



The proposed 230kV monopole structures (No. 170, 180 and 190) and conductors are shown in this visual simulation. Long and open views to the proposed project poles and conductors would result. The proposed monopoles range in height from 115' to 140', compared to 97' to 107' for the lattice structures. The closest structure would be 41 feet taller (with base elevation differences) and visually dominant with the existing lattice structure. Visual contrasts would be strong.

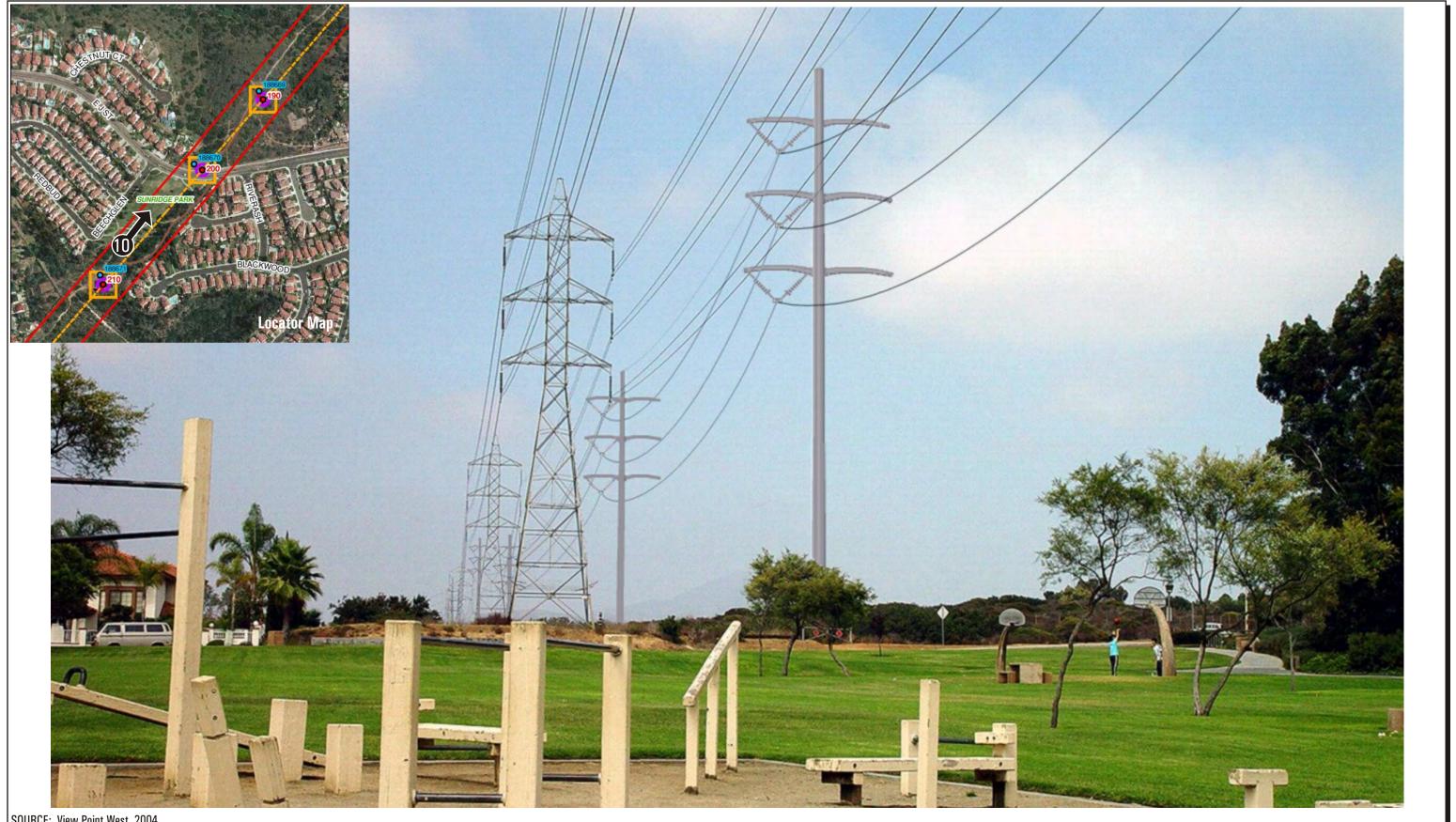
OMPPA Transmission Project EIR **KOP 9 - Residential - Chestnut Court - Visual Simulation**

FIGURE D.13-10B



The existing park view is to the northeast, from Sunridge Park. SDG&E's existing 138kV lattice structures and conductors are openly visible and skylined.

OMPPA Transmission Project EIR KOP 10 - Sunridge Park - Existing View D.13-11A



The proposed 230kV monopole structures (No. 170, 180, 190 and 200) and conductors are shown in this visual simulation. The proposed structures would range in height from 115' to 140', compared to the existing lattice towers that are 97' to 107' tall. Located over the park, the proposed monopoles and conductors would be visually dominant, and seen in conjunction with the existing lattice towers, would create very strong visual contrasts.

OMPPA Transmission Project EIR **KOP 10 - Sunridge Park - Visual Simulation** D.13-11B



The proposed 230kV monopole structures (No. 170, 180, 190 and 200) and conductors, and the removal of the existing lattice structures, are shown in this visual simulation. The proposed structures would range in height from 115' to 140', compared to the existing lattice towers that are 97' to 107' tall. While somewhat taller, the design of the new monopole would be visually more compatible with the existing urban features than the lattice tower. The cumulative visual change of removing the lattice tower and conductor, and installing the proposed monopole and conductors, would be low. (Class III)

OMPPA Transmission Project EIR KOP 10 - Sunridge Park - Visual Simulation D.13-11C - Transmission System Alternative 7

System Alternative 7). See *Section D.13.4.2* and *Figure D.13-11c*). While still remaining Significant (Class I), mitigation measures V-2a and V-2b are recommended to reduce visual effects to the extent feasible.

KOP 11 - Residential - Blackwood Road (Figures D.13-12A and D.13-12B)

Figures D.13-12A and D.13-12B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 11(S). This viewing location is from a residential neighborhood along Blackwood Road, looking to the west. SDG&E's proposed monopole tangent structure no.210 would be visible within a foreground viewing distance. From this viewpoint, the proposed monopole tangent structure would be partially screened by an intervening residential structure. The proposed monopole structure would be 120 feet tall, and perceived as more visually prominent that the existing lattice tower, that rises 102 feet, and would be located further away from the viewer. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 28 feet taller in height than the existing lattice tower. SDG&E has proposed APM 67 to provide partial landscape screening in residential areas. Nonetheless, the overall degree of visual change, created by both the new monopole structures and 230 kV lines, would be high. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant with the Transmission System Alternative 7. See Section D.13.4.2). While still remaining Significant (Class I), Mitigation Measure V-2a is recommended to reduce visual impacts.

KOP 12 – Telegraph Canyon Road (Figures D.13-13A and D.13-13B)

Figures D.13-13A and D.13-13B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 12. This location is from Telegraph Canyon Road, and shows typical views to the east. The visual character of the road is influenced by a mixture of natural vegetation along the canyon, and adjacent homes and exotic trees as well as the existing lattice structures. SDG&E's proposed monopole tangent structure no. 220 would be approximately 155 feet in height, compared to the adjacent lattice tower that rises 125 feet tall. The perceived differences in structure heights are somewhat minimized by viewing angle and intervening vegetation screening. The overall degree of visual change created by both the new monopole structures and 230 kV lines would be moderate. This overall visual change would occur within a foreground viewing distance along a local roadway where views would be intermittent and of short-duration. The visual sensitivity of the road is assessed as moderate and the visual impacts would, consequently, be less than significant (Class III). No mitigation is required.



The existing residential view is to the west, from Blackwood Road. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 11 - Residential - Blackwood Road - Existing View D.13-12A



The proposed 230kV monopole structure (No. 210) and conductors are shown in this visual simulation. The proposed structure would be 120' in height, compared to the existing 102' tall lattice tower. Intervening homes and landscaping would provide some partial screening. Located adjacent and closer to viewers, the proposed monopole and conductors would be visually dominant and create strong visual contrasts.

OMPPA Transmission Project EIR KOP 11 - Residential - Blackwood Road - Visual Simulation

FIGURE D.13-12B



The existing roadside view is from Telegraph Canyon Road, looking east towards SDG&E's existing 138kV lattice structure and conductors. Views to SDG&E's facilities are within a foreground viewing distance, and partially screened by exotic and native vegetation along the canyon.

OMPPA Transmission Project EIR KOP 12 - Telegraph Canyon Road - Existing View D.13-13A



The proposed 230kV monopole structure (No. 220) and conductors are shown in this visual simulation. The monopole would be located slightly farther from the viewer, although the proposed 155' tall monopole structure would appear larger in scale than the 125' tall lattice tower, due to both increased structure height and base elevation. The proposed monopole would be visually dominant with the existing lattice structure.

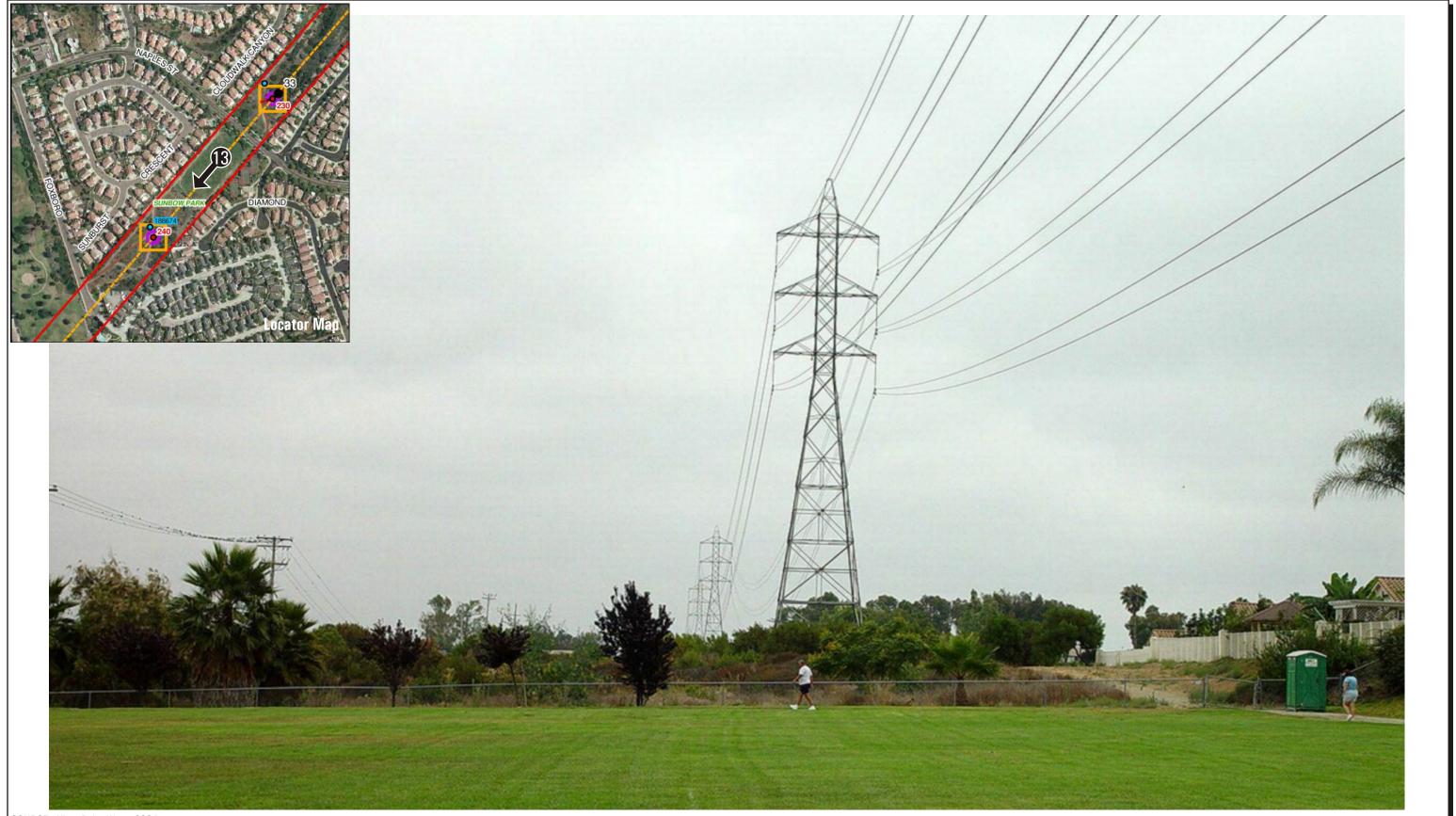
OMPPA Transmission Project EIR KOP 12 - Telegraph Canyon Road - Visual Simulation D.13-13B

KOP 13 – Sunbow Park (Figures D.13-14A and D.13-14B)

Figures D.13-14A and D.13-14B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 13. This viewing location is from Sunbow Park, and shows typical views to the southwest. SDG&E's proposed monopole tangent structures no. 240, 250, and 260 would be visible within a foreground viewing distance, and openly skylined given the ROW's location through the park. The proposed monopole tangent structures would range in height from 125 to 145 feet, compared to the existing lattice towers that range in height from 107 feet to 120 feet. While none of the structures would be located within the developed park area itself, the ROW crosses the park, and proposed structure 240 would be immediately adjacent to the park. This structure would be most visible, and would be approximately 25 feet taller than the adjacent lattice structure, considering both differences in the structure heights and base elevations. The overall degree of visual change, created by both the new monopole structures and 230 kV lines, would consequently be high. This overall visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Viewer exposure is also considered high due to the public community use of the park, and the proposed monopole, conductors, and hardware would be visually prominent. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2). While visual impacts would still remain Significant (Class I), Mitigation Measures V-2a and V-2b are recommended to reduce visual and aesthetic impacts to the extent feasible.

KOP 14 – Residential Area, Crescent Drive (Figures D.13-15A and D.13-15B)

Figures D.13-15A and D.13-15B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 14. This viewing location is from a residential neighborhood along Crescent Drive, and shows typical views looking to the southeast. SDG&E's proposed monopole tangent structure no.240 would be openly visible within a foreground viewing distance. From this viewpoint, the proposed monopole tangent structure perceived as substantially taller than the existing lattice tower, due to its location closer to viewers and differences in structure heights and base elevations. The proposed monopole structure would be 145 feet in height, compared to 120 feet for the lattice tower. The overall degree of visual change, created by both the new monopole structures and 230 kV lines, would consequently be high. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See *Section D.13.4.2*). While still



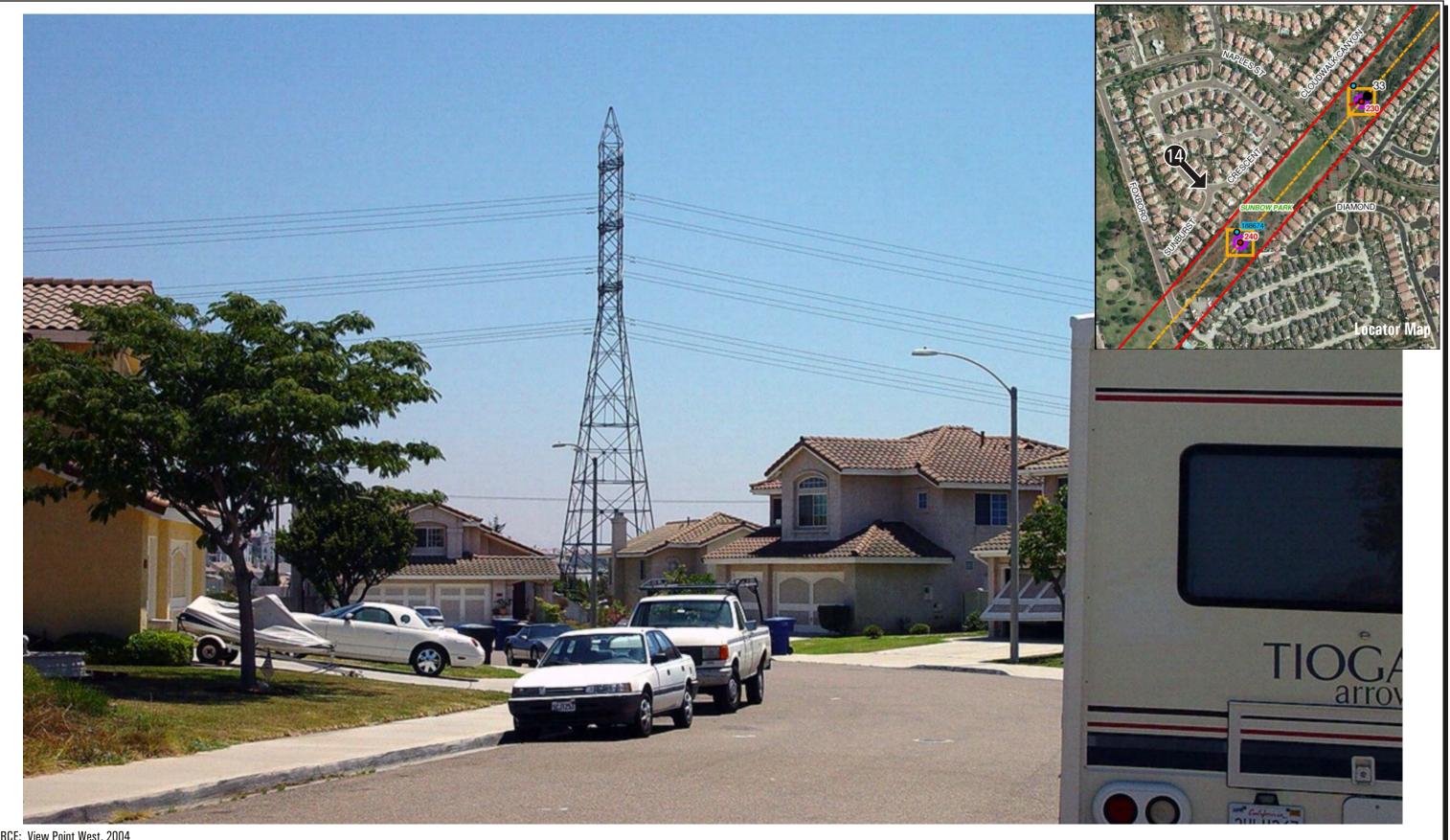
The existing park view is to the southwest, from Sunbow Park. SDG&E's existing 138kV lattice structures and conductors are openly visible and skylined.

OMPPA Transmission Project EIR **KOP 13 - Sunbow Park - Existing View** D.13-14A



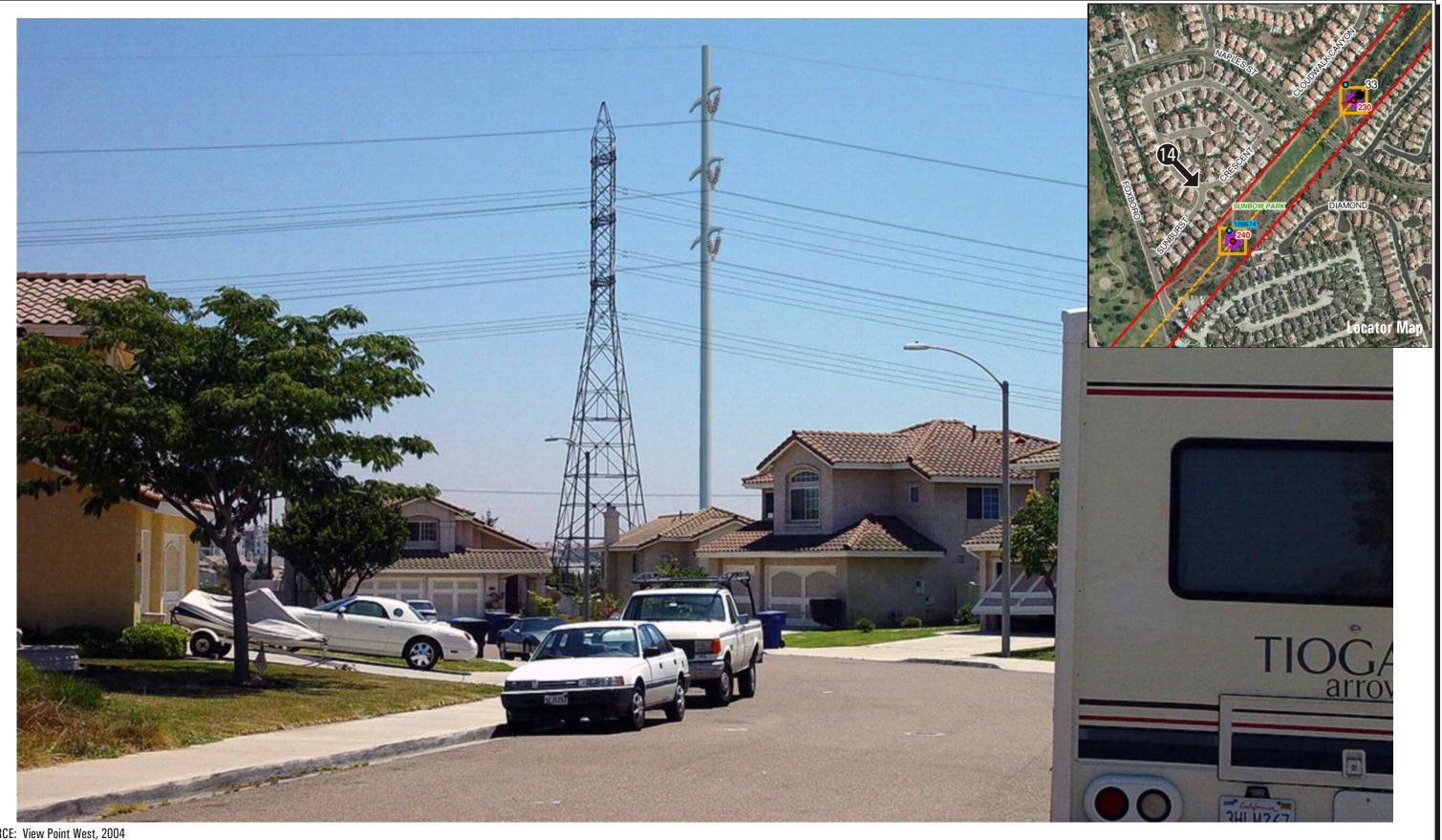
The proposed 230kV monopole structures (No. 240, 250 and 260) and conductors are shown in this visual simulation. The proposed structures would range in height from 125' to 145', compared to the existing lattice towers that are between 107' to 120' tall. Located over the park, the proposed monopoles and 230kV conductor would be visually dominant, and in conjunction with the existing 138kV lattice facilities, create very strong visual contrasts.

OMPPA Transmission Project EIR **KOP 13 - Sunbow Park - Visual Simulation** D.13-14B



The existing residential view is to the southeast, from Crescent Drive. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 14 - Residential - Crescent Drive - Existing View D.13-15A



SOURCE: View Point West, 2004

The proposed 230kV monopole structure (No. 240) and conductors are shown in this visual simulation. Although located farther from the viewer than the lattice tower, the proposed monopole structure appears slightly taller and of greater scale. The proposed monopole would be approximately 145' tall, compared to the 120' tall lattice tower. Visual contrasts would be strong, and the monopole and 230kV conductors would be visually co-dominant with the existing lattice facility.

OMPPA Transmission Project EIR KOP 14 - Residential - Crescent Drive - Visual Simulation |D.13-15B|

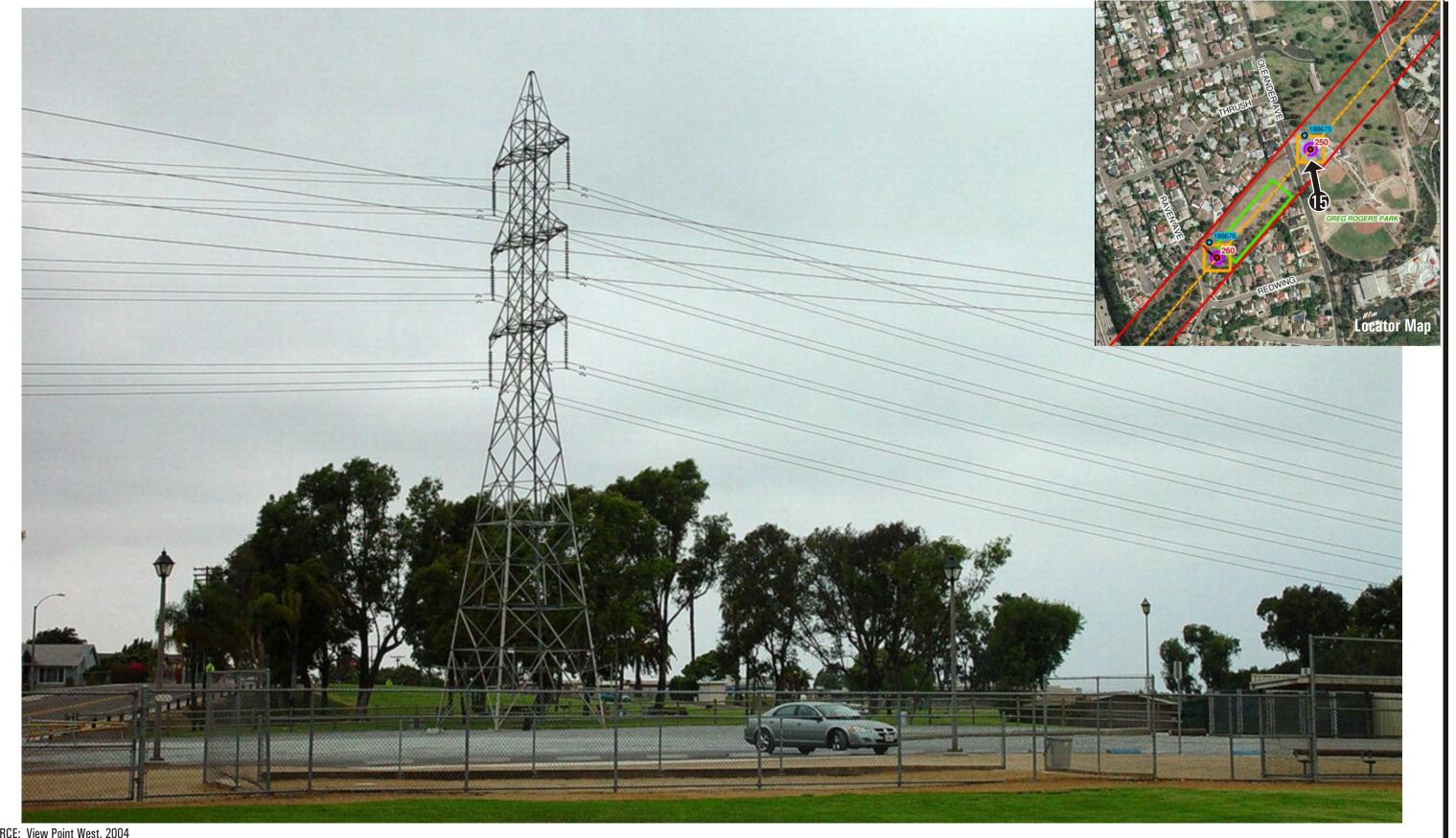
remaining Significant (Class I), Mitigation Measure V-2a is recommended to reduce visual contrasts to the extent feasible.

KOP 15 – Greg Rogers Park (Figures D.13-16A and D.13-16B)

Figures D.13-16A and D.13-16B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 15. This viewing location is from Greg Rogers Park, and shows typical views to the north. SDG&E's proposed monopole tangent structures no. 250 would be openly visible within a foreground viewing distance, and partially skylined. The proposed monopole tangent structures would be 125 feet tall, compared to the existing lattice tower that is 107 feet in height. Structure no. 250 would be perceived as taller than the existing lattice structure, due to its increased height and proximity to park viewers. SDG&E has proposed APM 67 and 68 that would provide for both additional landscape screening and minor adjustments to the pole location to reduce visual contrasts. Nonetheless, the overall degree of visual change created by the new monopole structure and 230 kV line would be high. This overall visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2). While still remaining Significant (Class I), mitigation measures V-2a and V-2b are recommended to reduce visual and aesthetic impacts to the extent feasible.

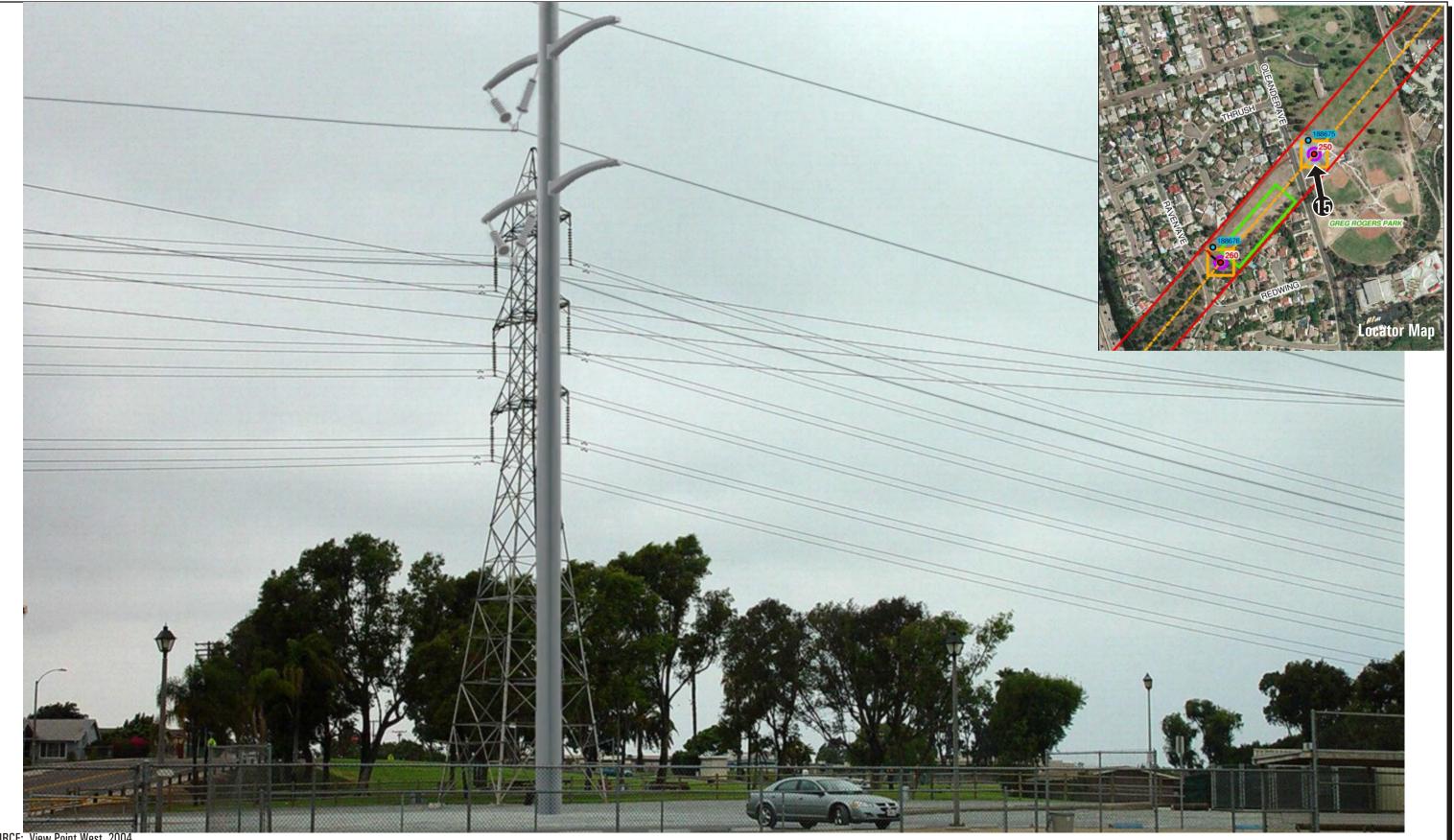
KOP 16 – Residential - Raven Avenue (Figures D.13-17A and D.13-17B)

Figures D.13-17A and D.13-17B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 16. This viewing location is from a residential location at the intersection of Raven Avenue and Thrush Street, and shows typical views to the southeast. SDG&E's proposed monopole tangent structure no.260 would be openly visible within a foreground viewing distance, and partially screened by intervening residential landscaping. Although the proposed monopole tangent structure would be 140 feet tall, compared to the existing lattice tower (112 feet tall), the new structure would be perceived as a similar scale as the existing lattice tower, due to its location farther from viewers and differences in base elevations. SDG&E has also proposed APM 67 that would provide partial landscape screening from residential views. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 35 feet taller than the existing lattice tower. The overall degree of visual change, created by both the new monopole structures and 230 kV lines, would be moderate to high. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts to



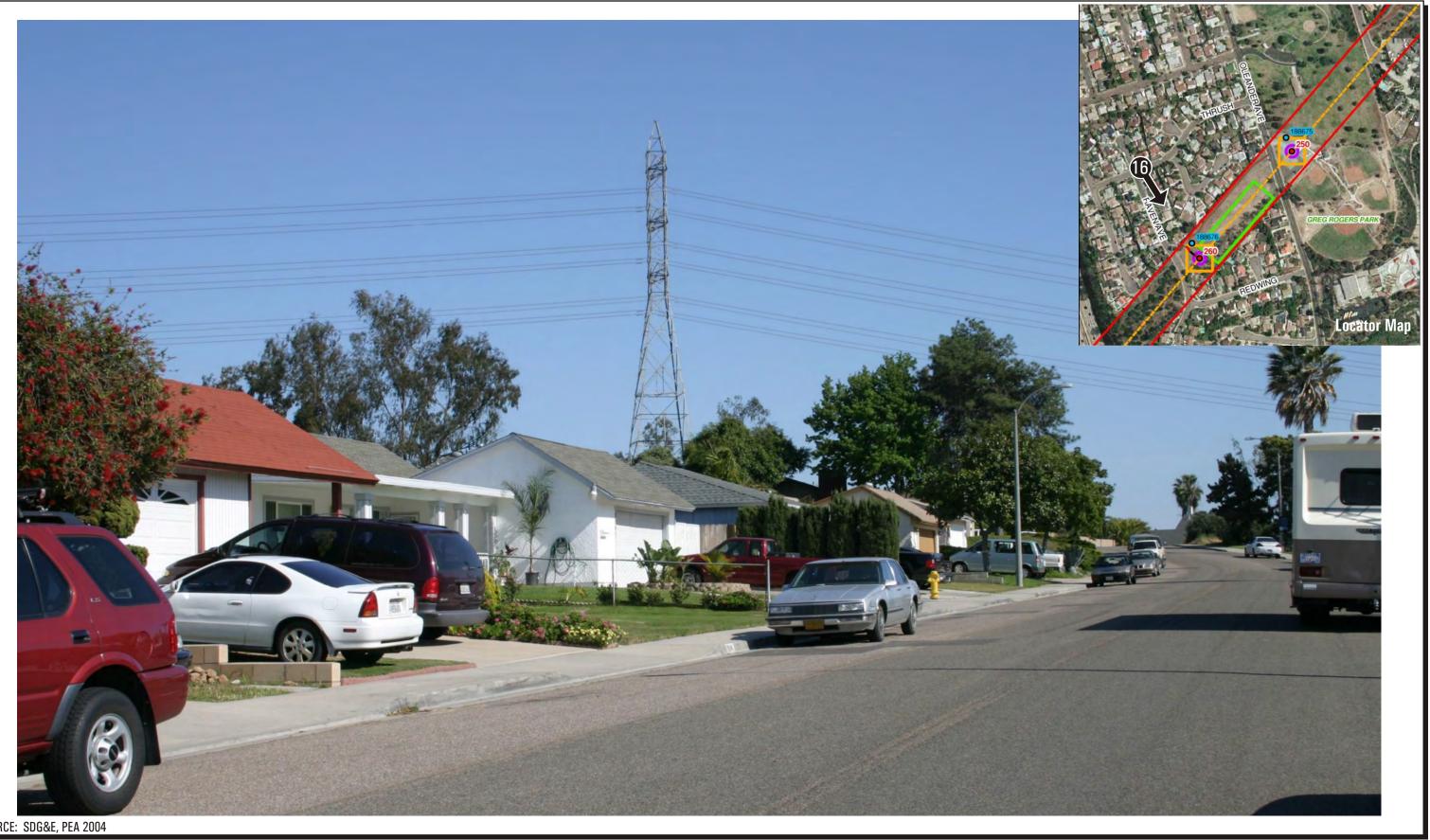
The existing park view is to the north, from Greg Rogers Park. SDG&E's existing 138kV lattice structure and conductors are openly visible and skylined.

OMPPA Transmission Project EIR KOP 15 - Greg Rogers Park - Existing View D.13-16A



The proposed 230kV monopole structure (No. 250) and conductors are shown in this visual simulation. The proposed structure would be 125' in height, compared to the existing lattice tower that is 107' tall. Located over the park, the proposed monopole and conductors would be visually dominant, and in conjunction with the existing lattice towers, create very strong visual contrasts.

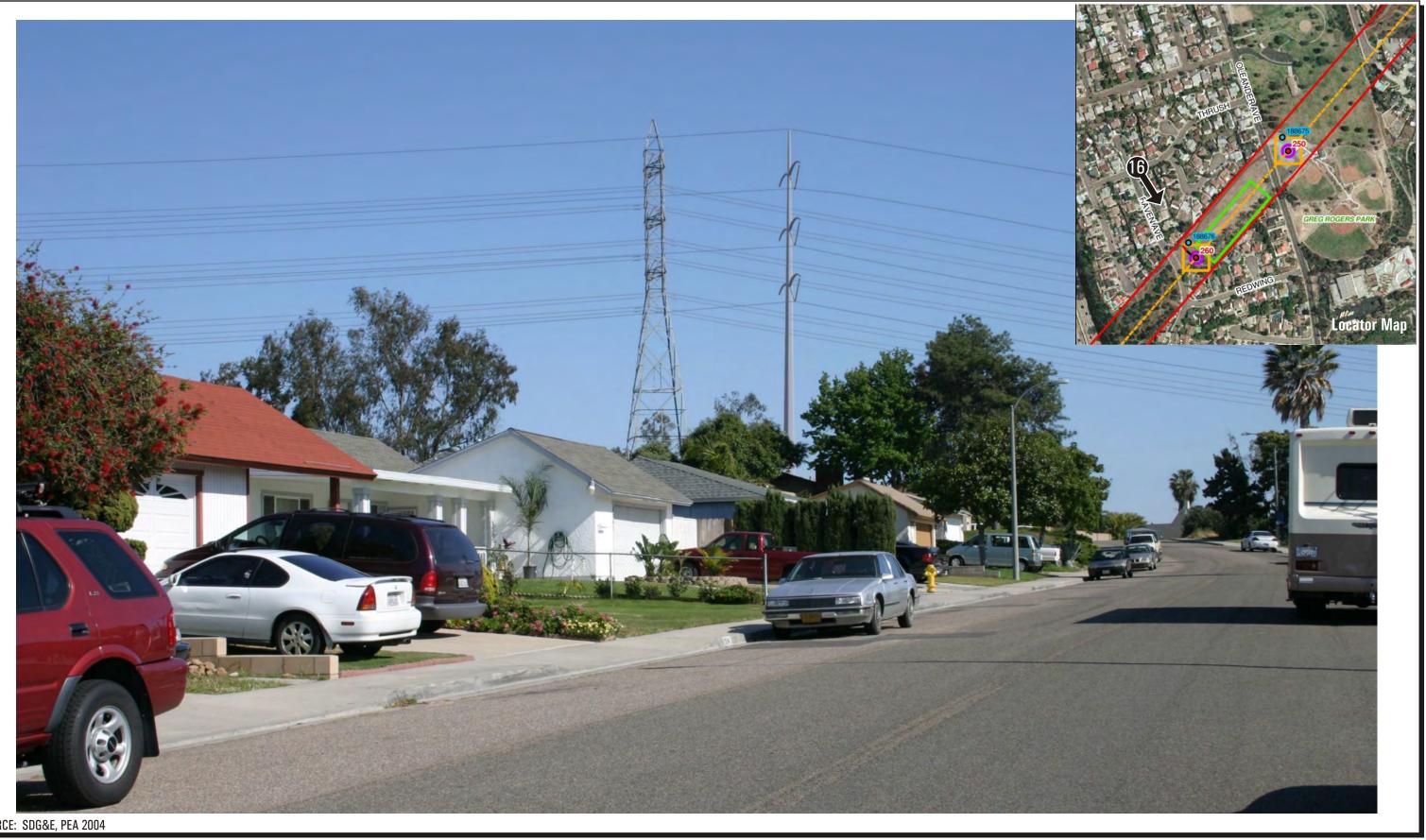
OMPPA Transmission Project EIR **KOP 15 - Greg Rogers Park - Visual Simulation** D.13-16B



SOURCE: SDG&E, PEA 2004

The existing residential view is to the southeast, from Raven Avenue. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 16 - Residential - Raven Avenue - Existing View D.13-17A



SOURCE: SDG&E, PEA 2004

The proposed 230kV monopole structure (No. 260) and conductors are shown in this visual simulation. Although located farther from the viewer than the lattice tower, the proposed monopole structure appears similar in scale to the existing lattice tower. The proposed monopole would be approximately 140' tall, compared to the 112' tall lattice tower. Visual contrasts would be strong, and the monopole and 230kV conductors would be visually co-dominant with the existing 138kV lattice facilities.

OMPPA Transmission Project EIR KOP 16- Residential - Raven Avenue - Visual Simulation D.13-17B

less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative System 7. See *Section D.13.4.2*). While still remaining Significant (Class I), Mitigation Measure V-2a is recommended.

KOP 17 – Nacion Avenue (Figures D.13-18A and D.13-18B)

Figures D.13-18A and D.13-18B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 17. This location is from Nacion Avenue, and shows typical views to the southwest. The visual character of the road is influenced by natural vegetation along the hillside, adjacent homes and exotic trees, and SDG&E's existing lattice structures and access road. SDG&E's proposed monopole tangent structure no. 280, 290, and 300 would be visible from this KOP, and range in height from 130 to 145 feet, compared to the adjacent lattice towers that vary in height from 99 feet to 120 feet. Structure 280 would be seen by motorists along Nacion Avenue, at a viewing distance of about 1000 feet away. This structure would be openly skylined on the elevated hillside and would be perceived as taller, than the adjacent lattice tower, taking both base elevations and structure heights into consideration (26 feet difference). The overall degree of visual contrast, or change, created by both the new monopole structures and 230 kV lines, would be moderate. This overall visual change would occur within a foreground to middleground viewing distance along a local roadway where views would be intermittent and of short-duration. The visual sensitivity of the road is assessed as moderate and the visual impacts would, consequently, be less than significant with Mitigation Measure V-2a incorporated (Class II).

KOP 18 – Residential – Spruce Street (Figures D.13-19A and D.13-19B)

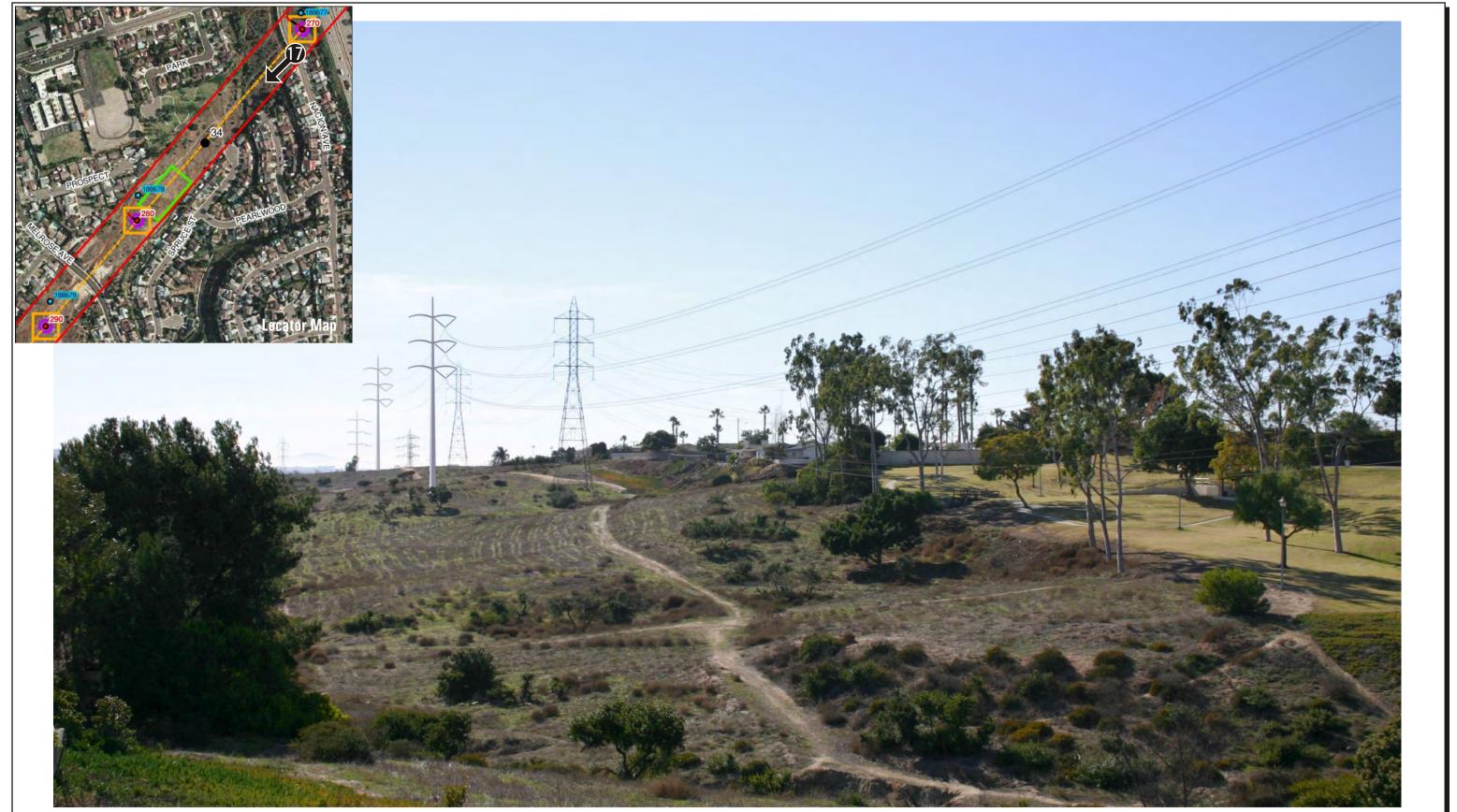
Figures D.13-19A and D.13-19B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 18. This viewing location is from a residential neighborhood along Spruce Street looking to the north. SDG&E's proposed monopole tangent structure no. 280 would be openly visible within a foreground viewing distance and elevated on a hillside behide residences on Spruce Street. From this viewpoint, the proposed monopole tangent structure perceived as substantially taller than the existing lattice tower, due to its location closer to viewers and differences in structure heights and base elevations. The proposed monopole structure would be 145 feet in height, compared to 120 feet for the lattice tower. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 26 feet taller in height than the existing lattice tower. SDG&E has proposed APM 67 that would provide partial landscape screening from residential views. Nonetheless, the overall degree of visual change created by both the new monopole structures and 230 kV lines would consequently be high. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these



SOURCE: SDG&E, PEA 2004

The existing roadside view is from Nacion Avenue, looking southwest towards SDG&E's existing 138kV lattice structures and conductors. Views to SDG&E's facilities and access road are within a foreground to middleground viewing distance, and openly visible on the rising slope to the southwest.

OMPPA Transmission Project EIR KOP 17 - Nacion Avenue - Existing View D.13-18A

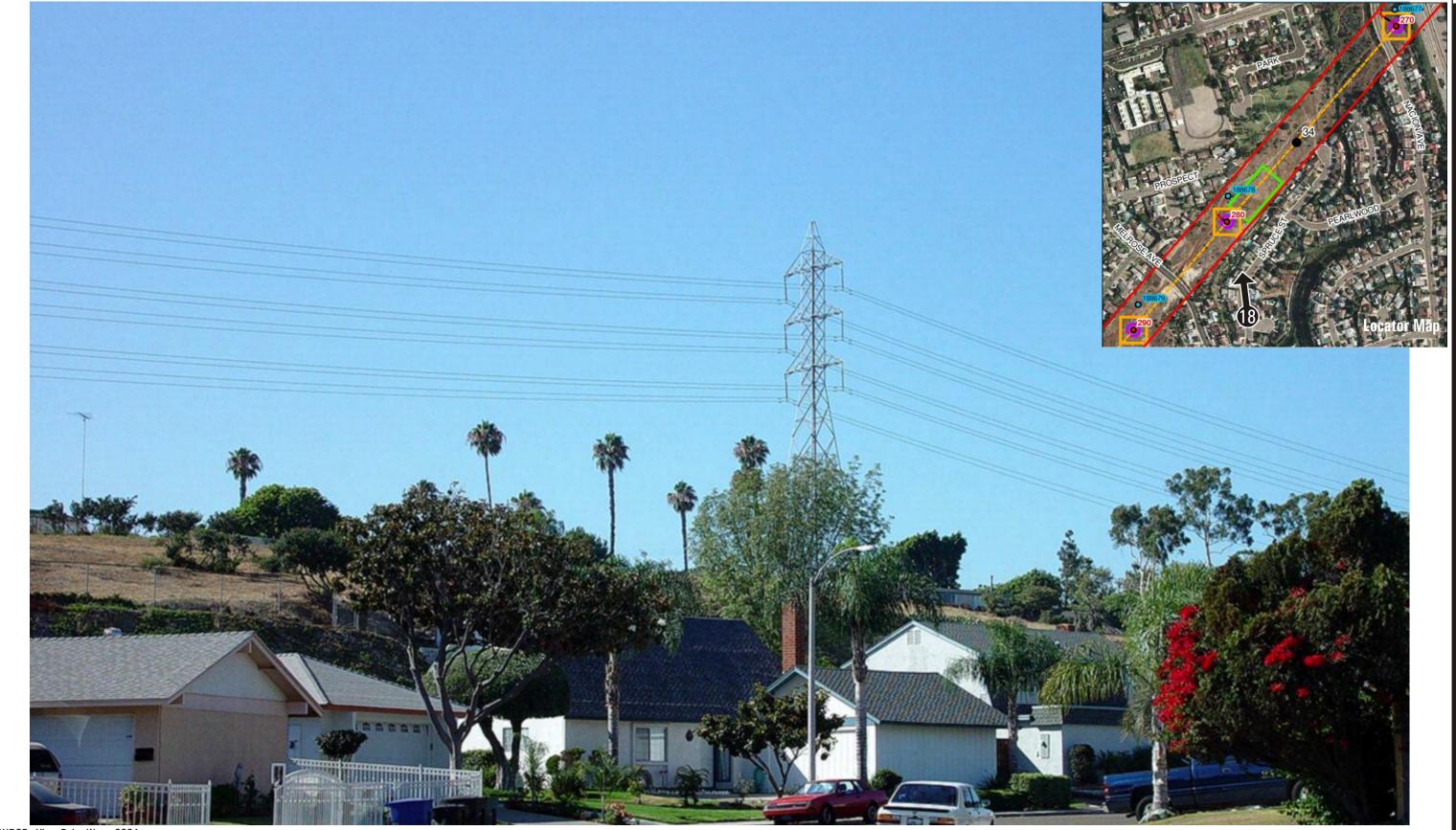


SOURCE: SDG&E, PEA 2004

The proposed 230kV monopole structures (No. 280, 290 and 300) and conductors are shown in this **visual simulation**. The monopoles would range in height from 130 to 145', compared to the lattice structures that are between 99' and 120'tall. The closest monopole would be 145' tall, and would be visually dominant with the other proposed monopoles and conductors. Visual contrasts would be strong and would result from upgraded access roads and spur roads, not shown in the simulation. Duration of views would be short-term and transient in nature.

OMPPA Transmission Project EIR KOP 17 - Nacion Avenue - Visual Simulation

figure D.13-18B



The existing residential view is to the north, from Spruce Street. SDG&E's existing 138kV lattice structure and conductors are openly visible on an elevated hill to the north. Views are within a foreground viewing distance.

OMPPA Transmission Project EIR KOP 18 - Residential Spruce Street - Existing View D.13-19A



SOURCE: View Point West, 2004

The proposed 230kV monopole structure (No. 280) and conductors are shown in this visual simulation. The proposed monopole structure appears substantially taller and of greater scale, due to its relative position to the lattice tower and its height. The proposed monopole would be approximately 145' tall, compared to the 120' tall lattice tower. Visual contrasts would be very strong, and the monopole and 230kV conductors would be visually dominant from this viewpoint.

OMPPA Transmission Project EIR KOP 18 - Residential Spruce Street - Visual Simulation D.13-19B



The proposed 230kV monopole structure (No. 280) and conductors are shown in this visual simulation in conjunction with the removal of the existing lattice tower and conductor. The proposed monopole structure would appear substantially taller than the lattice tower that is removed, due to its relative position to homes and height. The proposed monopole would be approximately 145' tall, compared to the 120' tall lattice tower that would be removed. Cumulatively, while the visual contrasts of the monopole would be very strong, the removal of the lattice structure would offset these visual changes. The overall degree of visual change is considered to be moderate, and visual impacts would be adverse, but less than significant (Class III).

OMPPA Transmission Project EIR KOP 18 - Residential Spruce Street - Visual D.13-19C **Simulation - Transmission System Alternative 7**

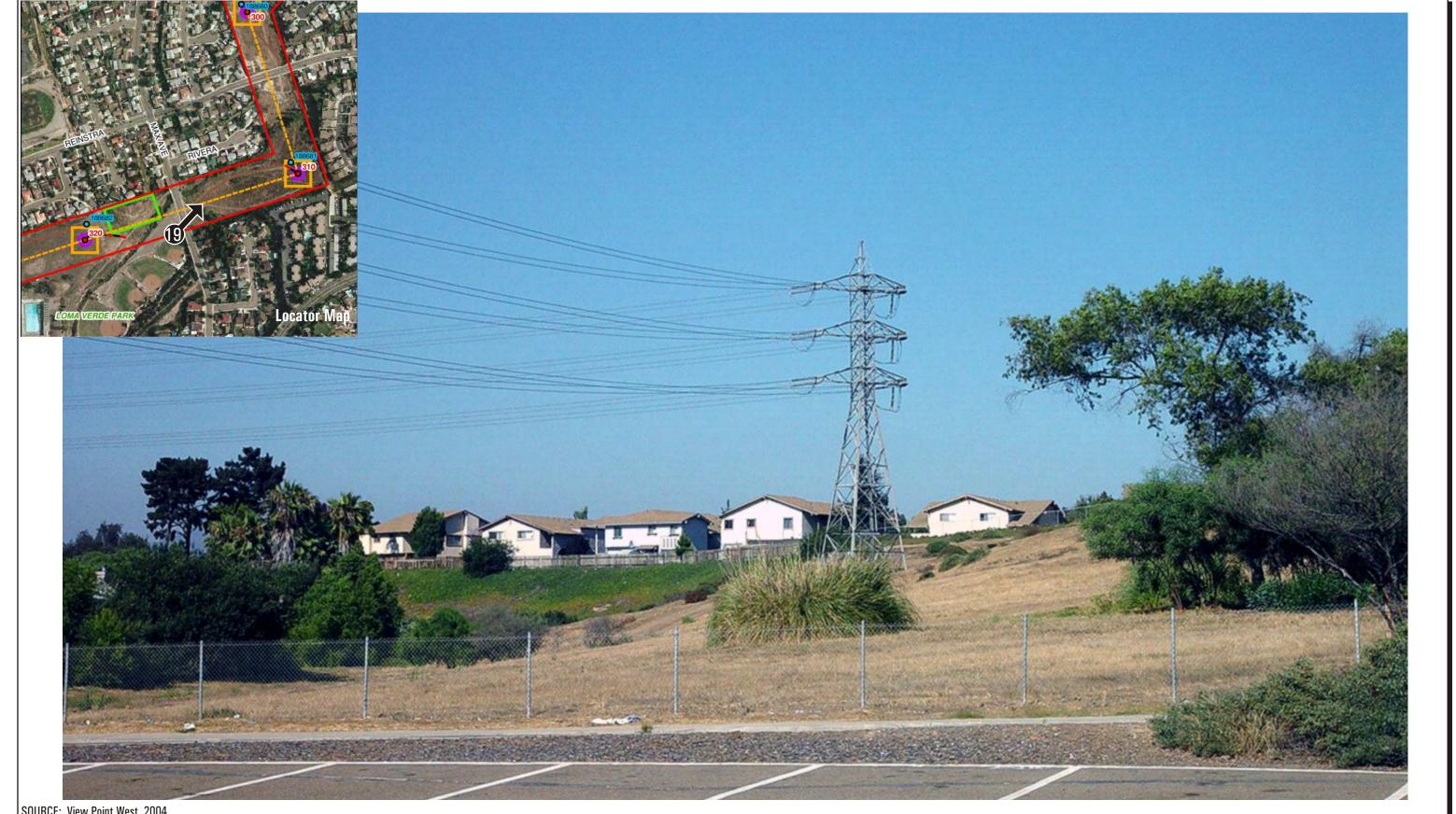
visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See *Section D.13.4.2* and *Figure D.13-9c*). While still remaining Significant (Class I), Mitigation Measure 2a is recommended.

KOP 19 – Reinstra Ball Fields (Figures D.13-20A and D.13-20B)

Figures D.13-20A and D.13-20B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 19. This viewing location is from the Rienstra ball fields and shows typical views to the east. At this location, SDG&E would install a 90 degree deadend structure (no. 310) that would be approximately 125 feet tall. This structure would be elevated on the hillside to the south of the existing lattice structure, and would be 48 feet taller than the existing lattice tower, considering both difference in base elevation and structure heights. The new deadend structure would be openly visible and skylined, and viewed within a foreground distance zone. SDG&E has proposed APM 67 that would provide partial landscape screening from the park and nearby residences. Nonetheless, the overall degree of visual change created by the new deadend monopole structure and 230 kV line would be high. This overall visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2 and Figure D.13-20C). While still remaining Significant (Class I), Mitigation Measures V-2a and V-2b are recommended to reduce visual and aesthetic impacts to the extent feasible.

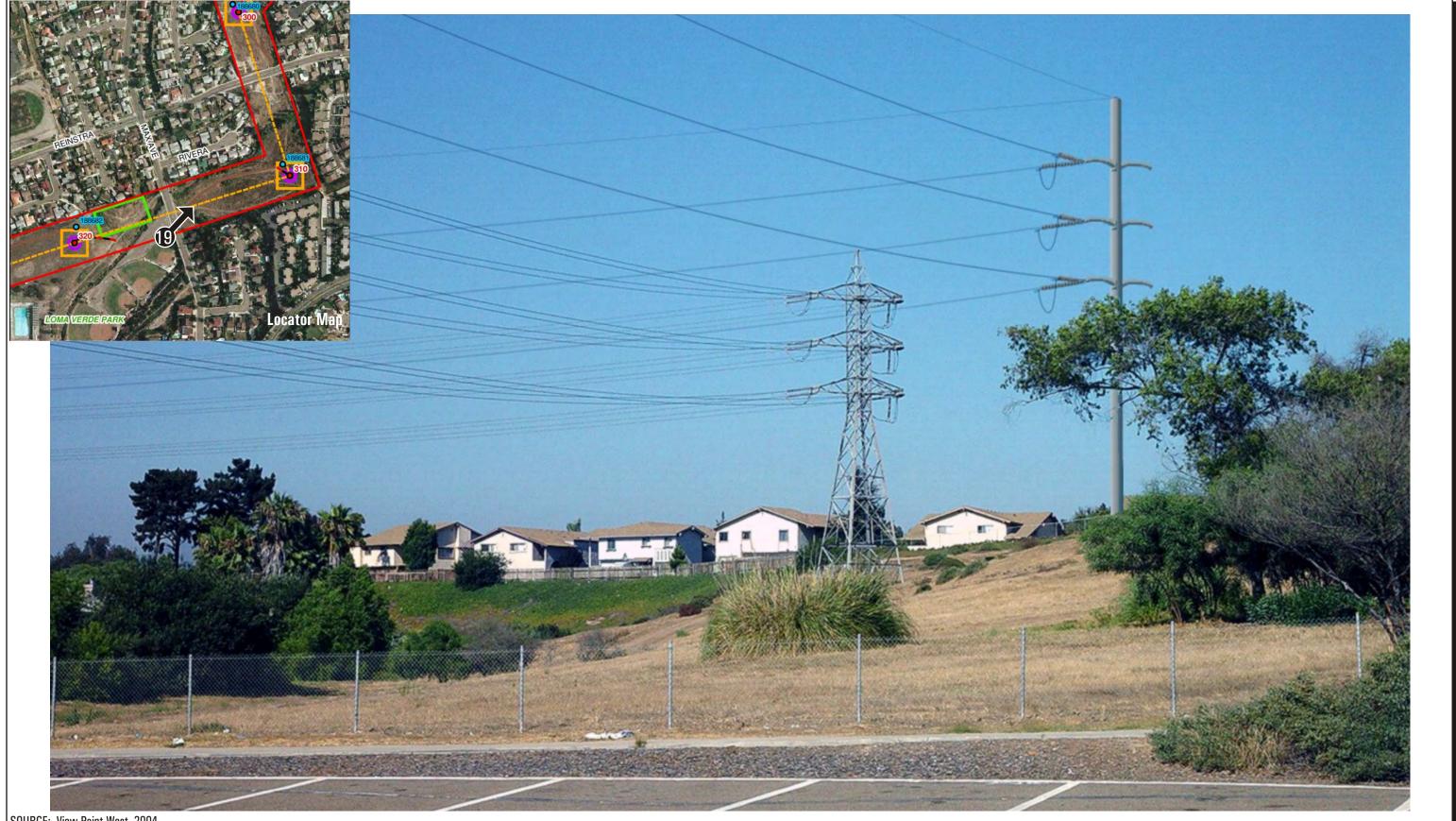
KOP 20 – SDG&E Park (Figures D.13-21A and D.13-21B)

Figures D.13-21A and D.13-21B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 20. This viewing location is from SDG&E Park, and shows typical views to the west, during afternoon sun conditions, when the existing and proposed structures are backlit. At this viewpoint, two of SDG&E's proposed monopole tangent structures (no. 340 and 350) and one deadend structure (360) would be visible within a foreground to middleground viewing distance, and openly skylined. Structures 340 and 350 would be located through the center of the park. Mature landscaping, including eucalyptus trees, are located near the proposed 230 kV structure alignment, and removal of some trees may be necessary for conductor clearances. The proposed 230 kV monopole structures would range in height from 125 feet to 135 feet, compared to the existing lattice towers that range in height from 107 feet to 109 feet. SDG&E has proposed APM 67 and 68 that would reduce visual impacts to some degree. Nonetheless, the overall degree of visual change, created by both the new monopole structures and 230 kV lines, and the potential removal of existing mature vegetation within the park would be high. This overall



The existing park view is to the east, from the Loma Verde Park, Reinstra ball fields. SDG&E's existing 138kV lattice dead-end structure and conductors are openly visible and skylined.

OMPPA Transmission Project EIR KOP 19 - Reinstra Ball Fields - Existing View D.13-20A

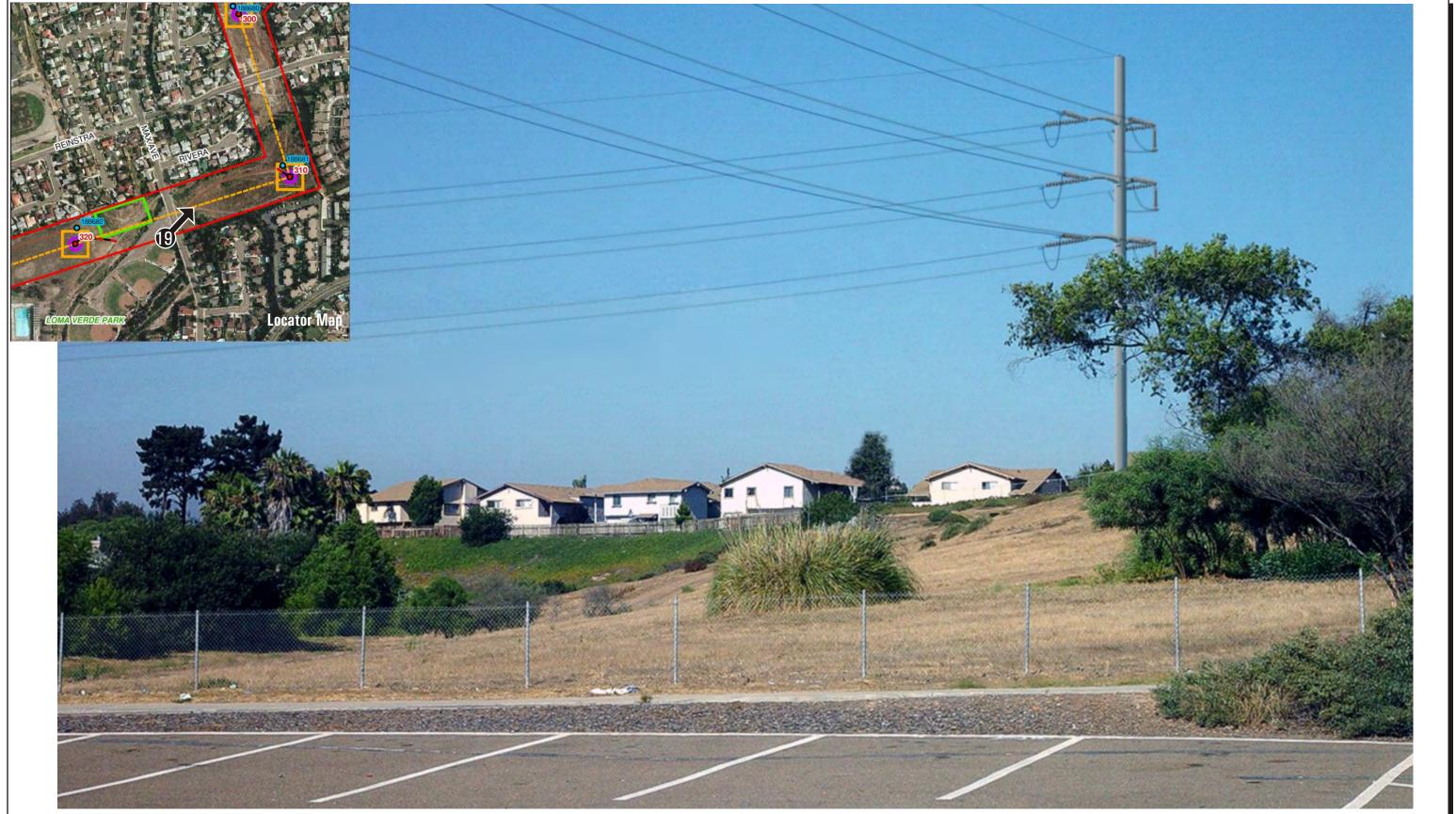


SOURCE: View Point West, 2004

The proposed 230kV monopole dead-end structure (No. 310) and conductors are shown in this visual simulation. The proposed structure would be 125' in height and would appear substantially taller than the existing lattice dead-end structure (99' tall) due to the location of the monopole on the hillside. With base elevation differences, the proposed 90 degree dead-end structure would be 48 feet taller than the existing lattice tower. Located in the park, the proposed dead-end structure and conductors would be visually dominant, due to both the increased height and mass of the proposed facilities. Very strong visual contrasts would occur to park viewers and nearby residences.

OMPPA Transmission Project EIR KOP 19 - Reinstra Ball Fields -**Visual Simulation**

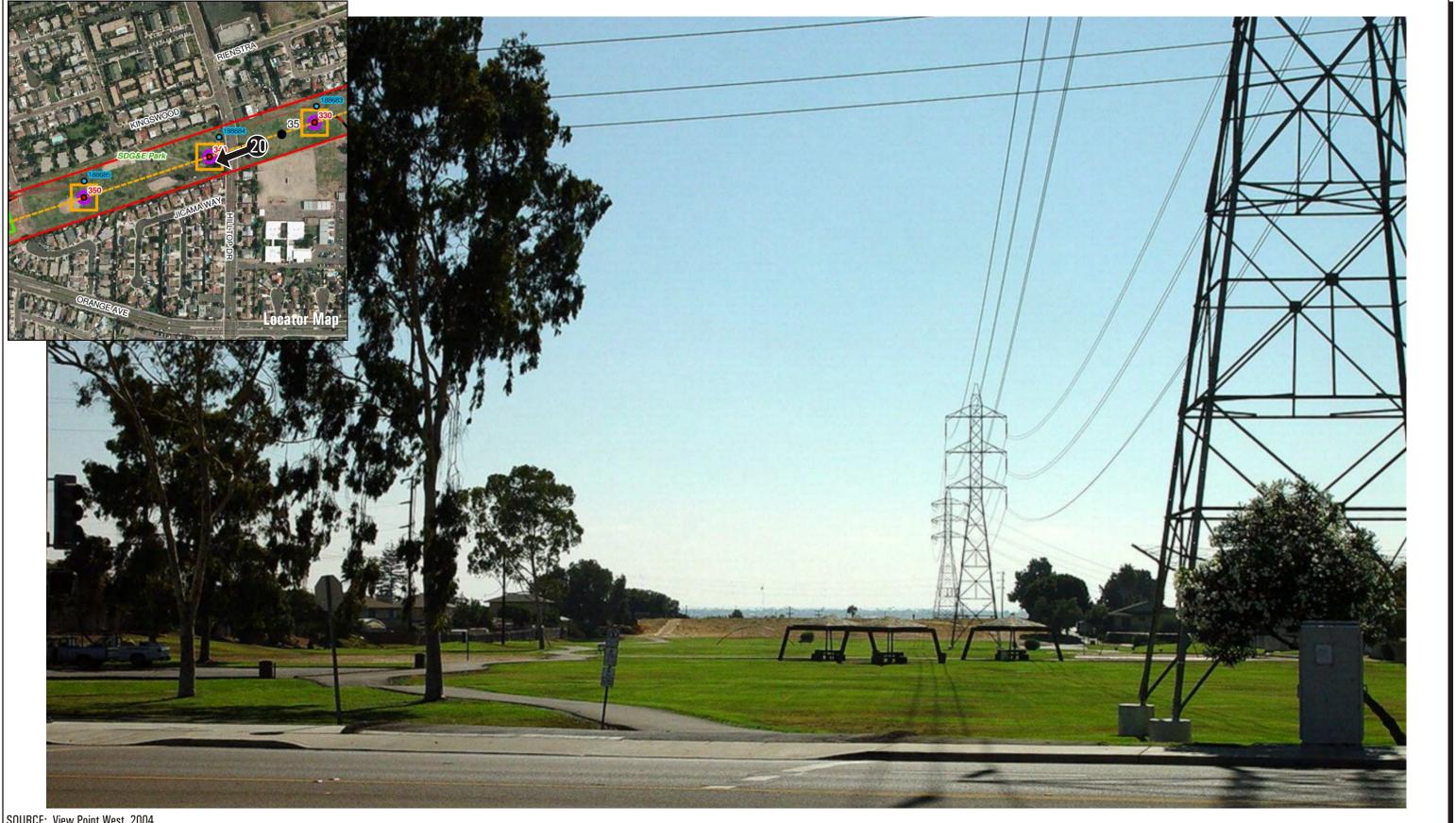
FIGURE D.13-20B



This visual simulation illustrates the cumulative visual effects of installing the proposed 230kV monopole dead-end structure (No. 310) and conductors, and removing the existing lattice dead-end structure and conductor. The proposed structure would be 125' in height and would appear substantially taller than the existing lattice dead-end structure (99' tall) due to the location of the monopole on the hillside. With base elevation differences, the proposed 90 degree dead-end structure would be 48 feet taller than the existing lattice tower. The strong visual contrasts of the new monopole would be offset, however, by the removal of the lattice facilities, thereby resulting in a moderate degree of overall visual change. Visual impacts would be adverse (Class III) and less than significant.

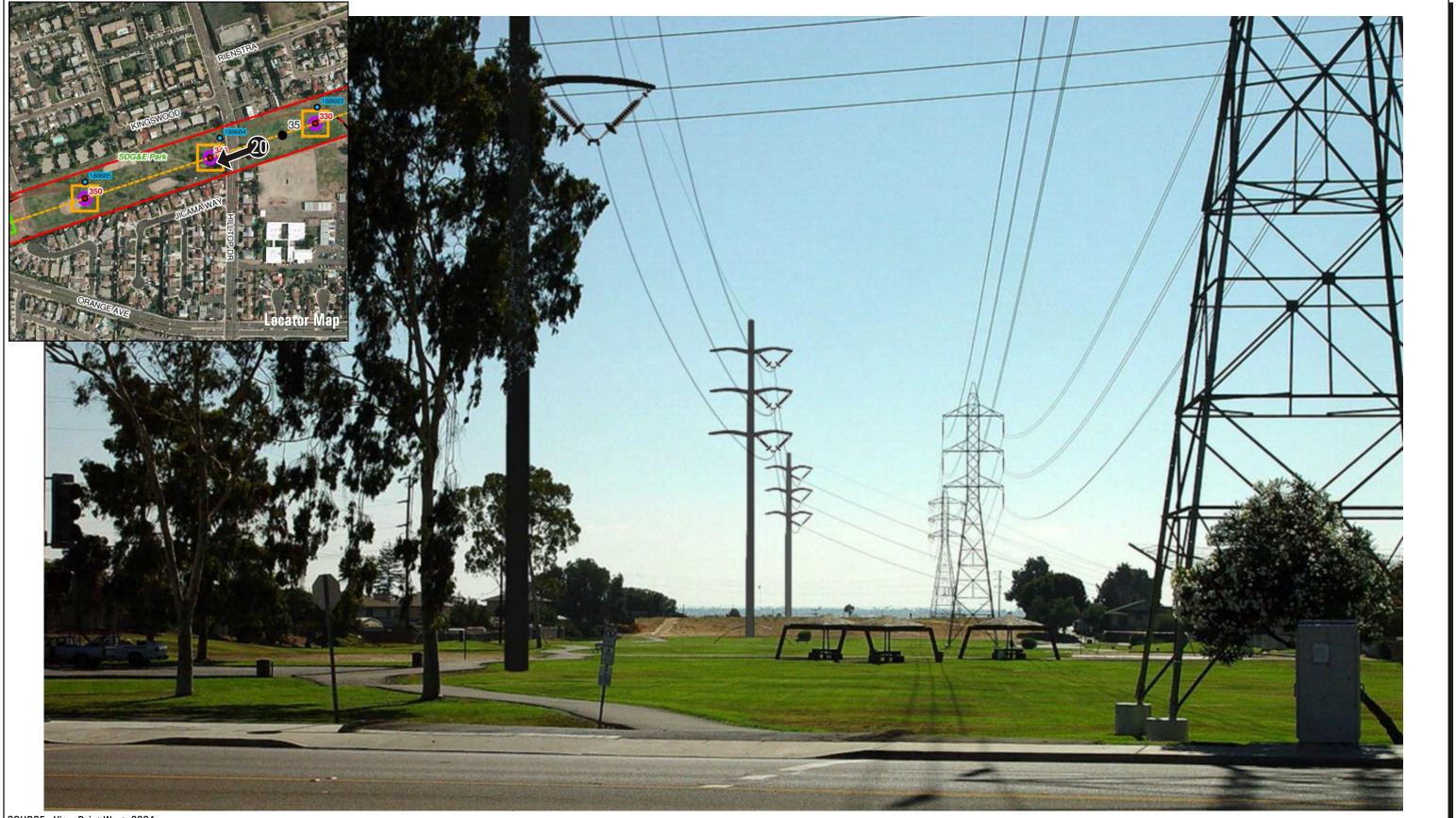
OMPPA Transmission Project EIR • KOP 19 - Reinstra Ball Fields - Visual Simulation • Transmission System Alternative 7

figure D.13-20C



The **existing park view** is to the west, from SDG&E Park. SDG&E's existing 138kV lattice structures and conductors are openly visible and skylined.

OMPPA Transmission Project EIR KOP 20 - SDG&E Park - Existing View D.13-21A



The proposed 230kV monopole structures (No. 340, 350 and 360) and conductors are shown in this visual simulation. The proposed structures would range in height from 125' to 135', compared to the existing lattice towers that are 107 to 109' tall. Located over the park, the proposed monopoles and conductors would be visually dominant, and in conjunction with the existing lattice towers, would create very strong visual contrasts.

OMPPA Transmission Project EIR KOP 20 - SDG&E Park - Visual Simulation

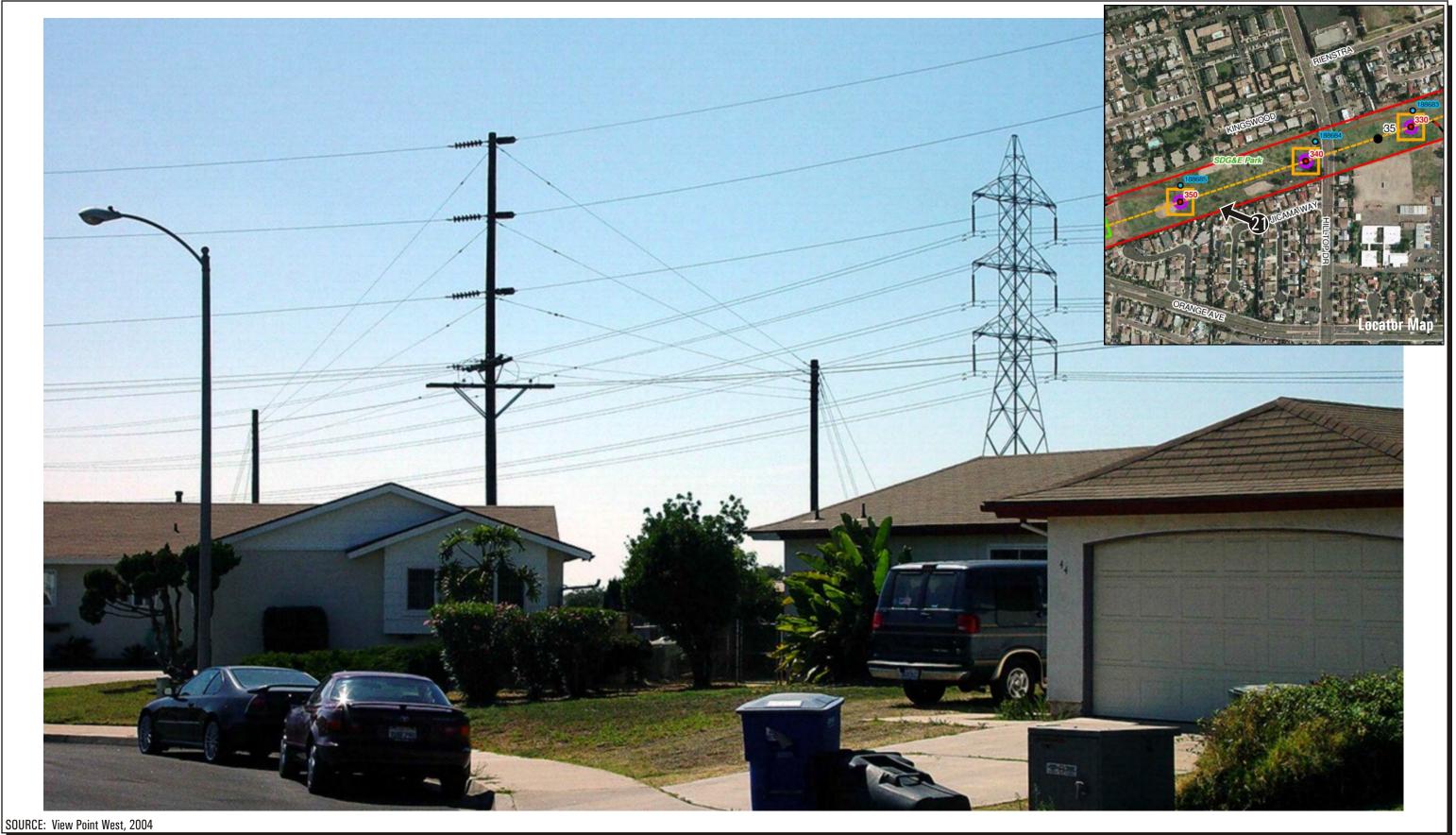
FIGURE D.13-21B visual change would occur within a foreground viewing distance of an existing park that is considered to be of high visual sensitivity due to its use and landscape values. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open and elevated visibility conditions afforded. However, relocation of structure 350 further to the west, and along the park's western boundary is recommended to reduce the visual impacts to the extent possible (APM No. 68). While still remaining Significant (Class I), replacement of mature trees that may need to be removed, is also recommended to reduce the potential aesthetic landscape impacts to the extent possible (Mitigation Measure V-2b). (This impact would be mitigated to less than significant by Transmission System Alternative 7. See *Section D.13.4.2*).

KOP 21 – Residential - Jicama Way (Figures D.13-22A and D.13-22B)

Figures D.13-22A and D.13-22B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 21. This viewing location is from a residential neighborhood along Jicama Way, west of Hilltop Drive, looking to the west. SDG&E's proposed monopole tangent structure no.350 would be openly visible within a foreground viewing distance. From this viewpoint, the proposed monopole tangent structure perceived as substantially taller than the existing lattice tower, due to its location closer to viewers and differences in structure heights and base elevations. The proposed monopole structure would be 135 feet in height, compared to 107 feet for the lattice tower. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 31 feet taller in height than the existing lattice tower. Views from this residential neighborhood have also been previously affected by several transmission lines and distribution lines, as well as SDG&E's existing 138 kV line and lattice structure. In addition, SDG&E has proposed APM 67 and 68 that could reduce visual contrasts to some degree. Nonetheless, the overall degree of visual change created by the addition of another new monopole structures and 230 kV lines, would be high to moderate. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2).

KOP 22 - Residential - 5-10 Mobile Home Ranch (Figures D.13-23A and D.13-23B)

Figures D.13-23A and D.13-23B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 22. This viewing location is from the 5-10 Mobile Home Park, a residential community located between Orange Avenue and Anita Street. Views from the KOP are to the west, where structures 400, 410 and 420 would be visible. (Structure 390, adjacent and to the north of the photo location, would also be seen, but is not in the



The existing residential view is to the west, from Jicama Way. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance. Other existing transmission and distribution lines are also seen and create strong visual influences that cumulatively clutter and detract from the visual quality of this neighborhood.

OMPPA Transmission Project EIR KOP 21 - Residential- Jicama Way - Existing View D.13-22A

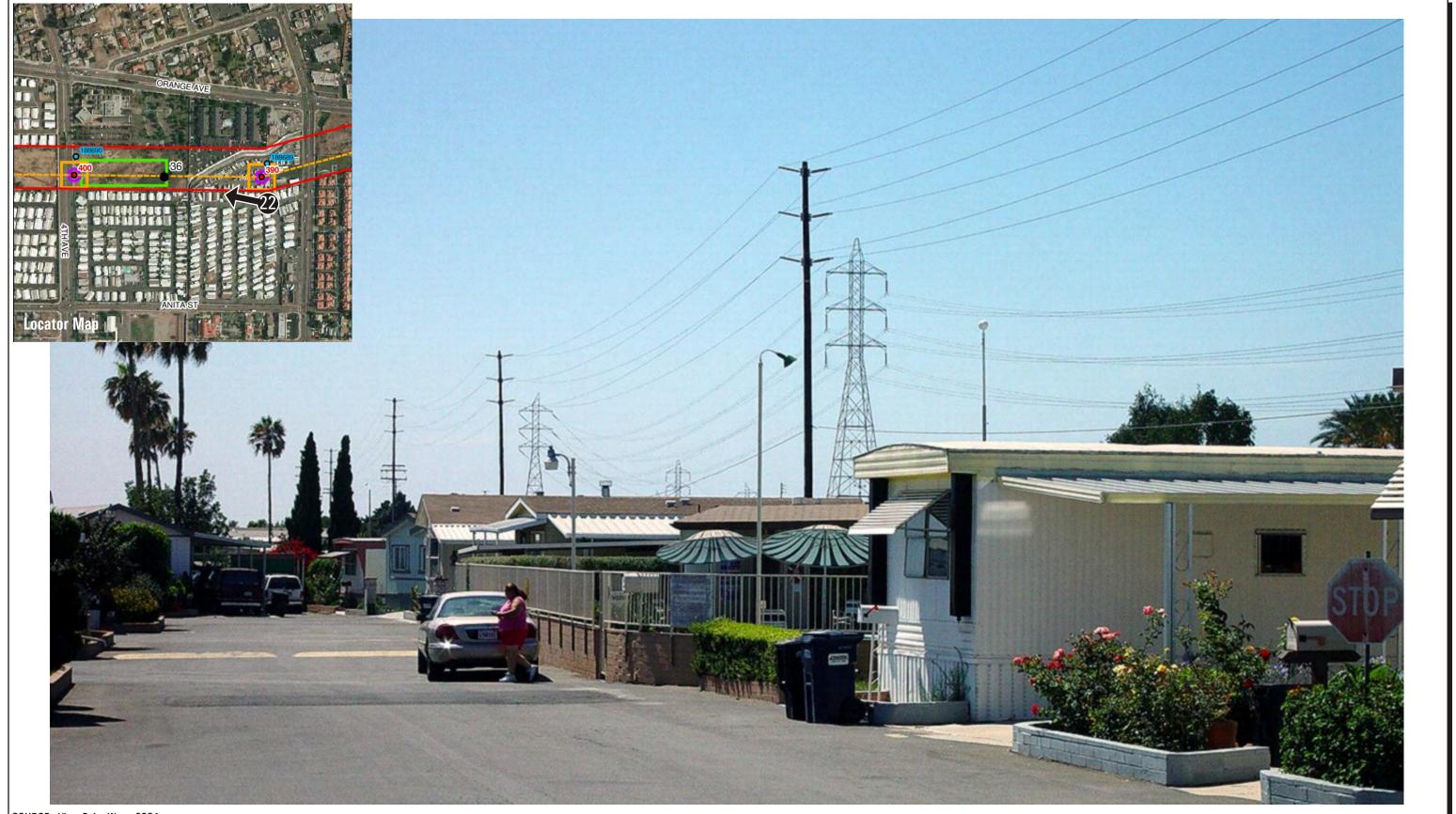




The 230kV monopole structure (No. 350) and conductors are shown in this visual simulation. The monopole would be approximately 135' tall, compared to the 107' tall lattice tower. Due to the monopole's position closer to viewers, the structure and lines would be visually dominant and cumulatively add to the visual clutter that currently exists from multiple utility lines. Overall, the monopole and 230kV conductors would be openly visible, and add strong contrasts to the already impacted urban landscape.

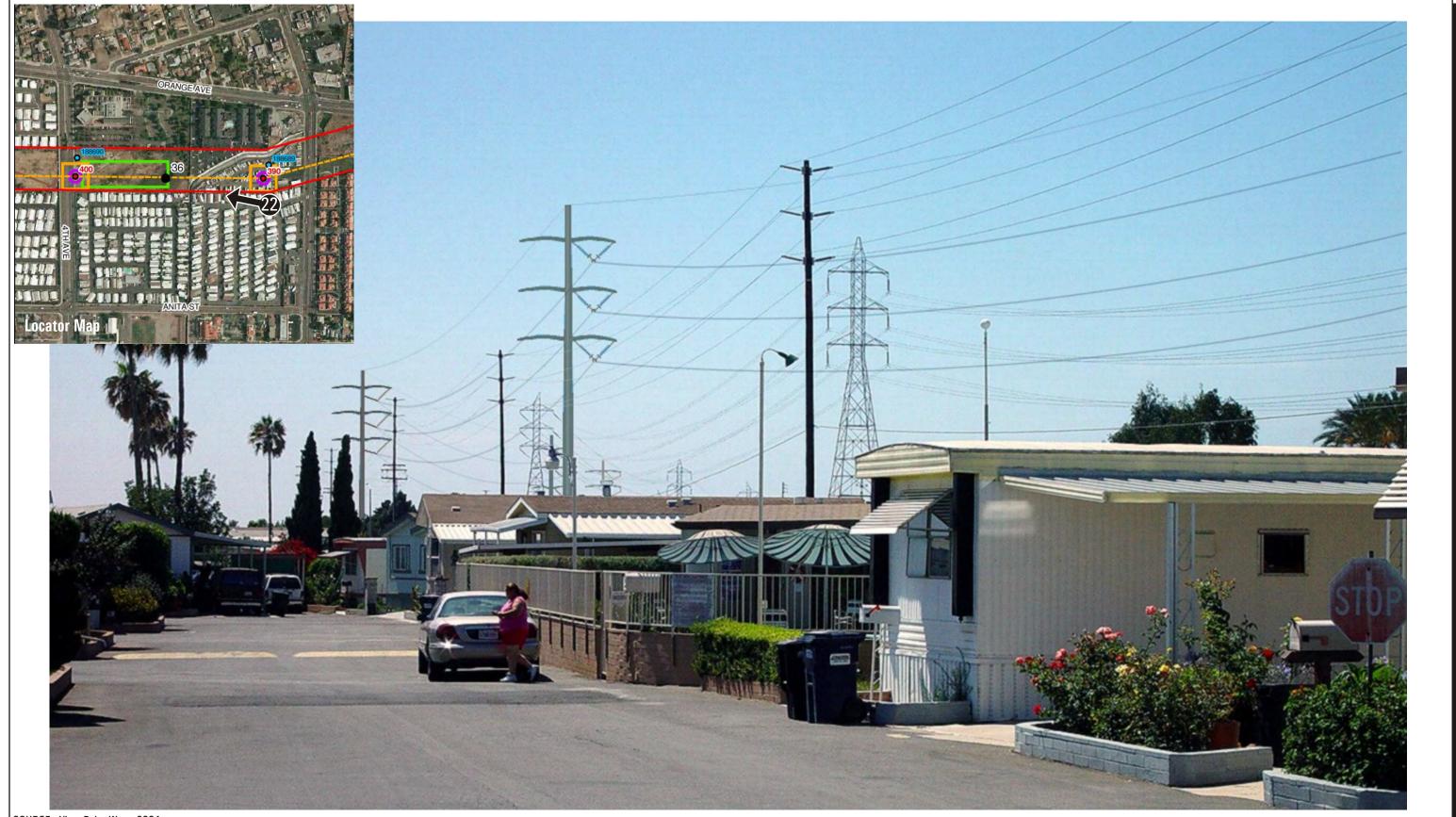
OMPPA Transmission Project EIR KOP 21 - Residential- Jicama Way - Visual Simulation

FIGURE D.13-22B



The existing residential view is to the west, from the 5-10 Mobile Home Ranch. SDG&E's existing 138kV lattice structures and conductors are openly visible, within a foreground viewing distance. Other existing transmission and distribution lines are also seen and create strong visual influences that cumulatively clutter and detract from the visual quality of this neighborhood.

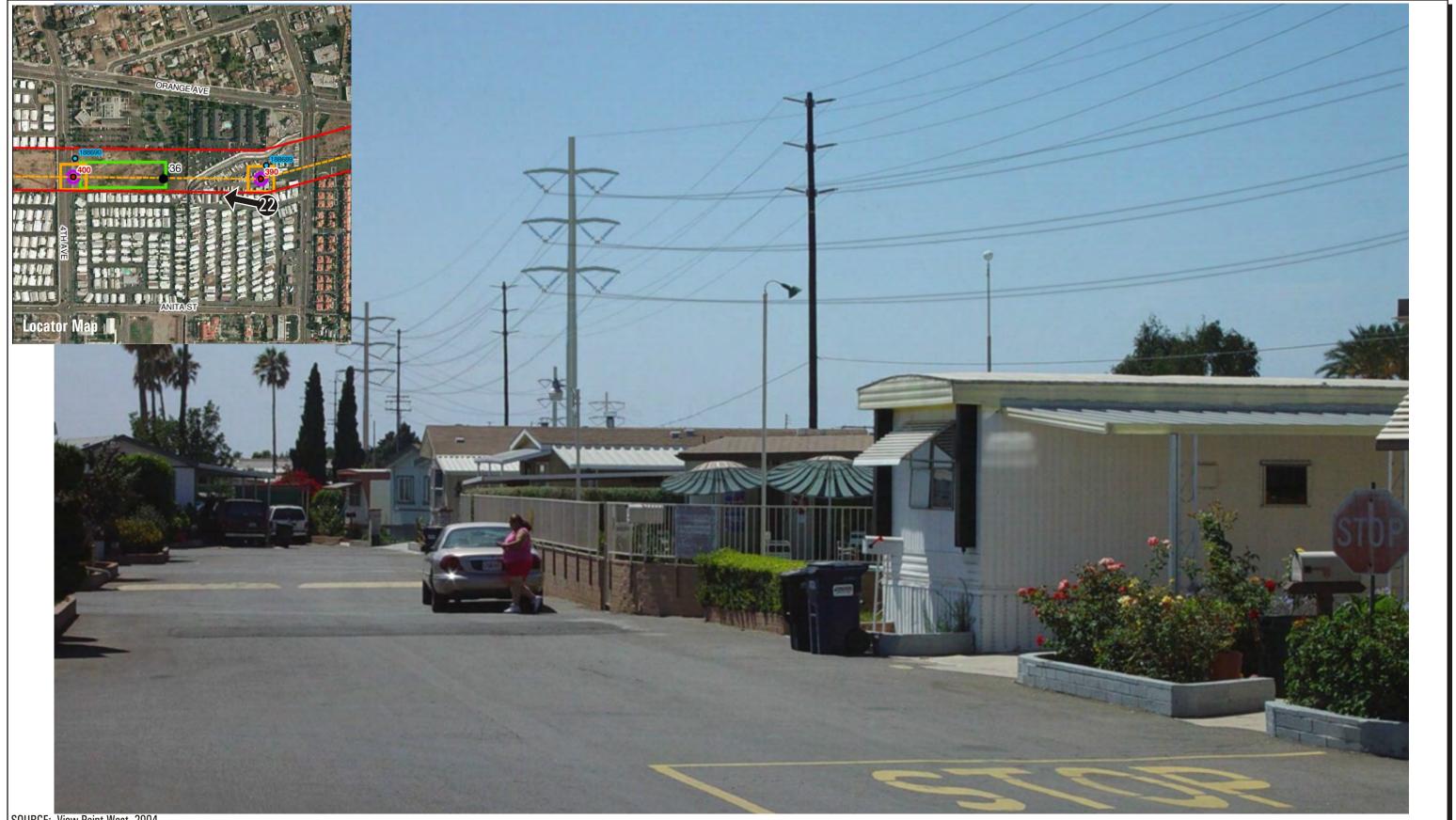
OMPPA Transmission Project EIR KOP 22 - Residential - 5-10 Mobile Home Ranch - Existing View D.13-23A



Three proposed monopole structures (No. 400, 410 and 420) and conductors are shown in this **visual simulation**. The 230kV monopoles would range in height from 120 to 135', compared to the lattice towers that are 102' to 130'. Due to the monopoles' position closer to viewers, the proposed structures and lines would be visually dominant and add to the cumulative visual clutter that currently exist from multiple utility lines. Overall, the monopoles and 230kV conductors would create strong contrasts to the already impacted urban landscape.

OMPPA Transmission Project EIR KOP 22 - Residential - 5-10 Mobile Home Ranch -Visual Simulation

figure D.13-23B



Three proposed monopole structures (No. 400, 410 and 420) and conductors are shown in this **visual simulation**, along with the removal of the existing lattice structures and conductor. The 230kV monopoles would range in height from 120 to 135', compared to the lattice towers that are 102' to 130'. The monopoles' would be visually dominant from this viewpoint due to the position of the structures adjacent to the residential area. These visual contrasts would be offset somewhat by the removal of the lattice towers and lines, that would reduce the overall visual clutter that currently exist from multiple utility lines. The overall degree of visual change would be low and impacts would be adverse, but less than significant (Class III).

OMPPA Transmission Project EIR KOP 22 - Residential - 5-10 Mobile Home Ranch -Visual Simulation - Transmission System Alternative 7

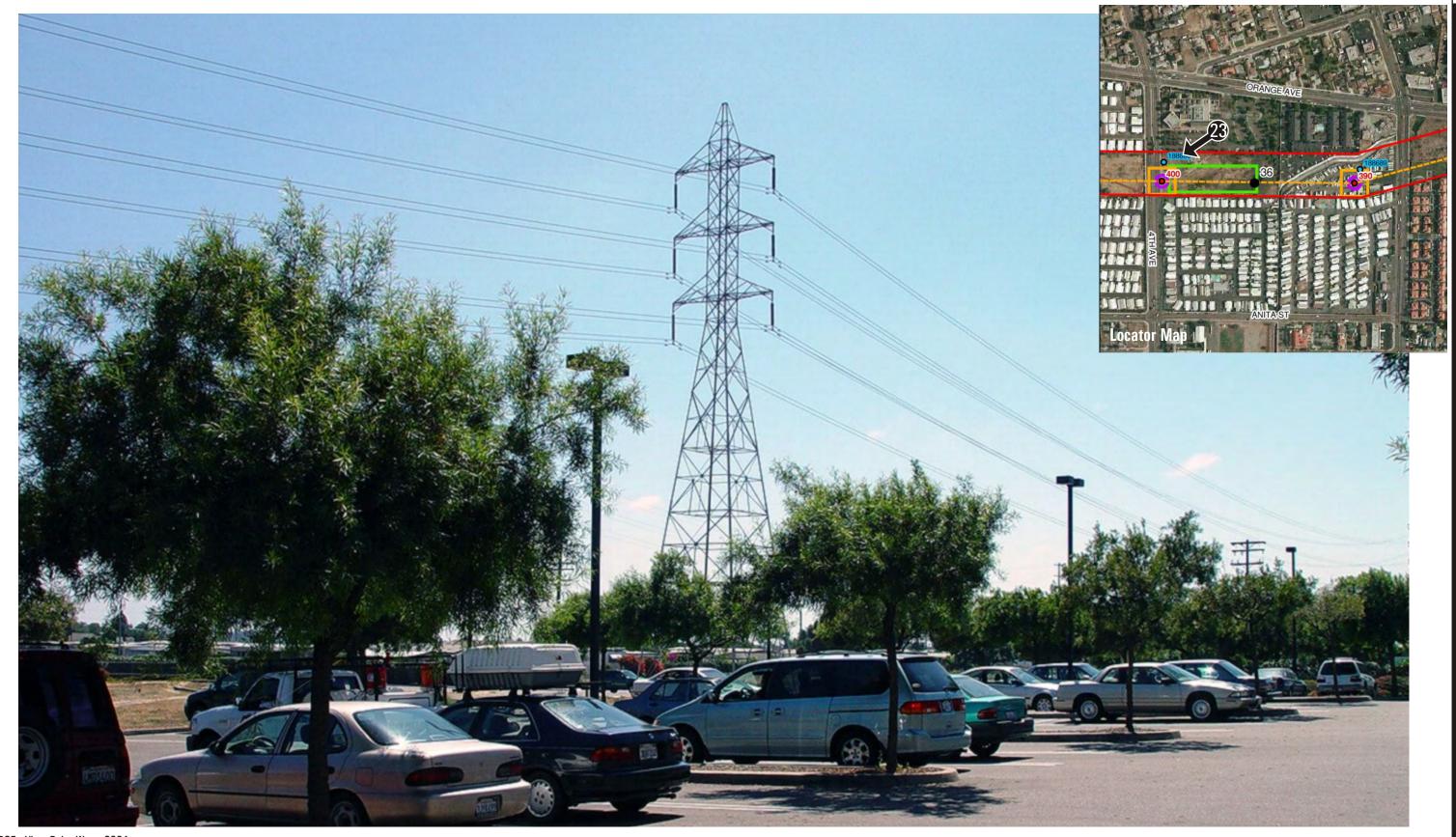
figure D.13-23C photograph). SDG&E's proposed structures would include two tangent monopoles, and one angle structure. These structures would range in height from 120 to 135 feet, and would be located parallel to SDG&E's existing lattice structures, that are 102 feet to 130 feet in height. Consequently, from this viewpoint, the proposed monopole structures would be perceived as similar in scale as the existing lattice towers. SDG&E has proposed APM 67 that would provide some partial landscape screening from residential areas. Nonetheless, the overall degree of visual change created by the addition of another set of new monopole structures and 230 kV lines would be high to moderate. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See Section D.13.4.2 and Figure D.13-23C). While still remaining Significant (Class I), Mitigation Measures V-2a and V-2b are recommended to reduce visual and aesthetic impacts to the extent feasible.

KOP 23 – Chula Vista South Public Library (Figures D.13-24A and D.13-24B)

Figures D.13-24A and D.13-24B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 23. This viewing location is from the parking lot of the Chula Vista South Public Library, looking to the southwest. From this viewing location SDG&E's proposed monopole tangent structure no. 400 would be partially visible from the parking lot and seen within a foreground viewing distance. From this viewpoint, the proposed monopole tangent structure would be perceived as slightly smaller than the existing lattice tower. The proposed structure would be located further from the library than the existing lattice tower, and would be perceived as smaller, given intervening distance and vegetation screening. Structure no. 400 would be 135 feet tall, compared to the existing lattice tower that is 130 feet in height. The visual sensitivity of this area, is assessed as moderate due to the public and transient use associated with the library. SDG&E has proposed APM 67, that could partially reduce visual contrasts with landscape screening. The overall degree of visual change created by both the new monopole structures and 230 kV lines would be moderate. Implementation of Mitigation Measure V-2a would ensure that this visual impact would be less than significant (Class II).

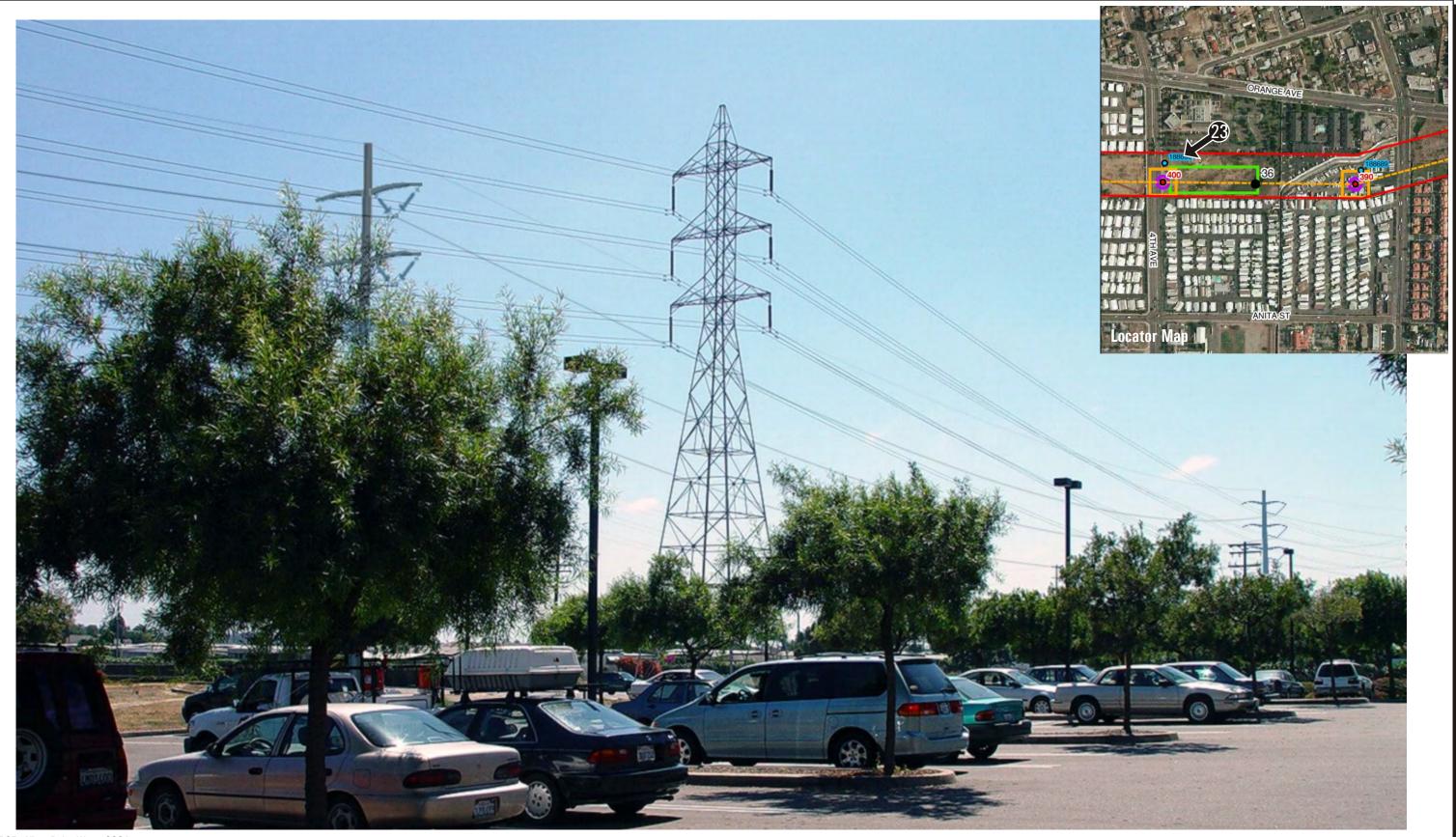
KOP 24 – Residential - Lynwood South Mobile Estates (*Figures D.13-25A and D.13-25B*)

Figures D.13-25A and D.13-25B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 24. This viewing location is from the Lynwood South Mobile Estates. Views from KOP 24 are to the west, where structures 410, 420 and 430 would be visible. SDG&E's proposed structures would include two monopole angle structures, and one tangent structure. These structures would range in height from 120 to 135 feet, and would



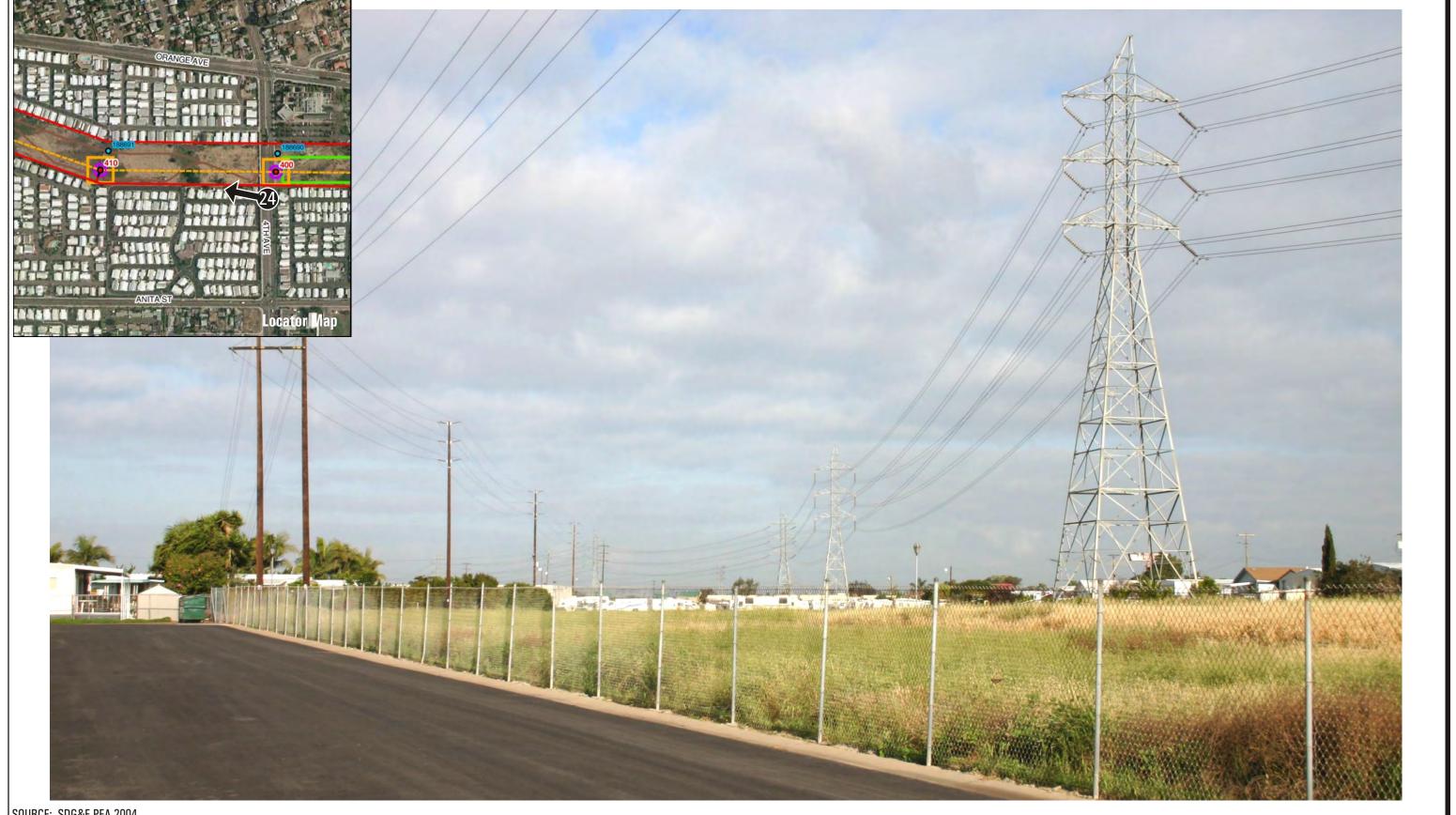
The existing public library view is looking southwest, from the Chula Vista South Public Library parking lot. SDG&E's existing 138kV lattice structure and conductors are openly visible and prominent, from a foreground viewing distance. Exotic landscaping provides partial screening for the tower.

OMPPA Transmission Project EIR KOP 23 - Chula Vista South Public Library - Existing View D.13-24A



The proposed 230kV monopole structure (No. 400) and conductors are shown in this visual simulation. Located further south of the parking lot and viewers, the proposed 135' tall monopole structure appears similar in scale to the 130' tall lattice tower. The proposed monopole and conductors would be partially screened by intervening exotic landscaping and trees. The pole would create strong to moderate contrasts, and views would be intermittent.

OMPPA Transmission Project EIR KOP 23 - Chula Vista South Public Library - Visual Simulation D.13-24B



SOURCE: SDG&E PEA 2004

The existing residential view is to the west, from the Lynwood South Mobile Estates. SDG&E's existing 138kV lattice structures and conductors are openly visible, within a foreground to middleground viewing distances. Other existing transmission lines are also seen.

OMPPA Transmission Project EIR KOP 24 - Residential - Lynwood South Mobile Estates - Existing View D.13-25A



SOURCE: SDG&E PEA 2004

Three proposed monopole structures (No. 410, 420 and 430) and conductors are shown in this **visual simulation**. The 230kV monopoles would range in height from 120 to 135', compared to the lattice towers that are 102' to 125'. The proposed structures and lines would be visually co-dominant and add to the cumulative visual clutter that currently exists from multiple utility lines. Overall, the monopoles and 230kV conductors would create strong contrasts.

OMPPA Transmission Project EIR KOP 24 - Residential - Lynwood South Mobile Estates -Visual Simulation

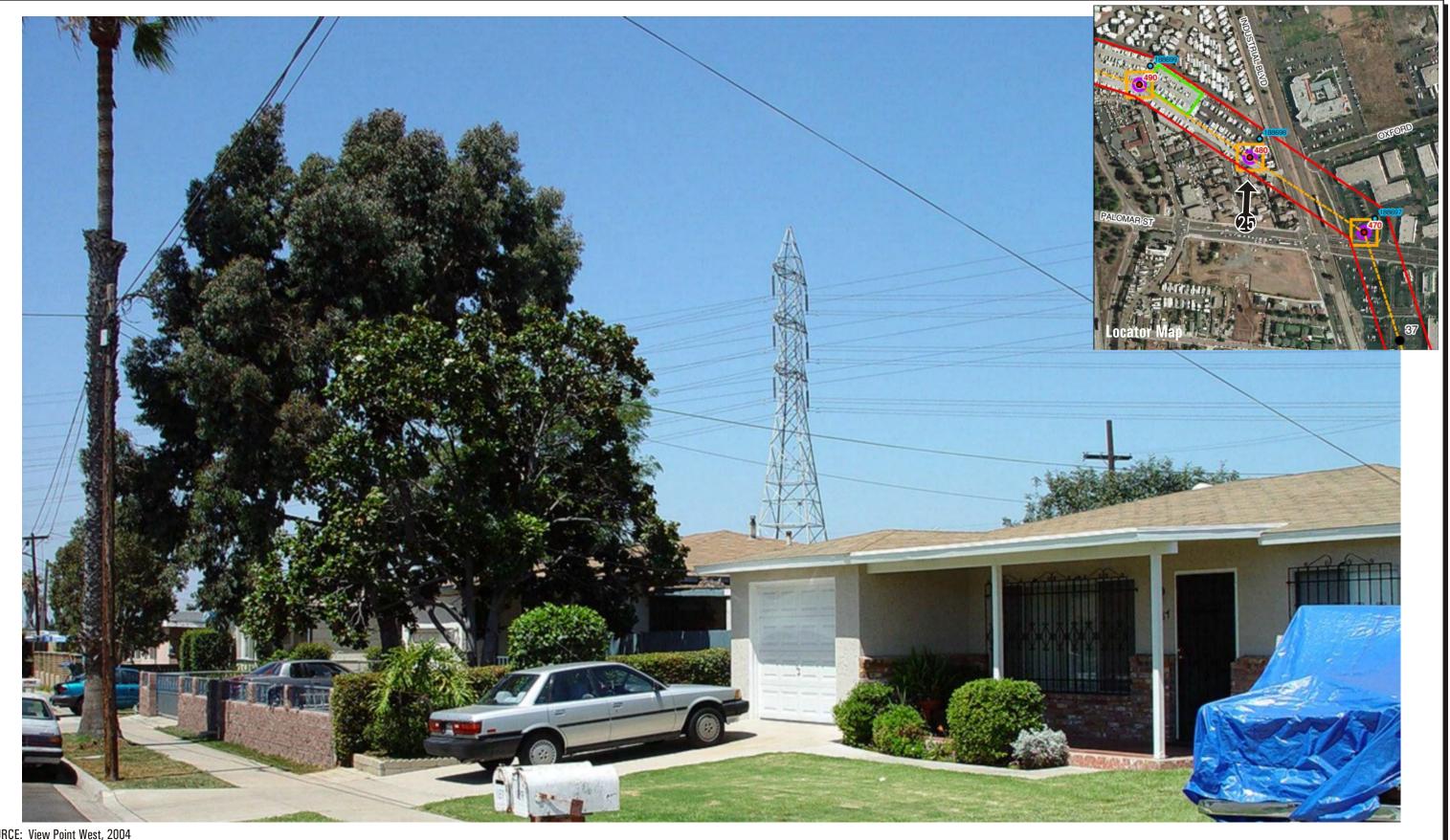
figure D.13-25B be located parallel to SDG&E's existing lattice structures, that are 102 feet to 125 feet in height. Consequently, from this viewpoint, the proposed monopole structures would be perceived as similar in scale as the existing lattice towers. SDG&E has proposed APM 67 to reduce visual contrasts with landscape screening. The overall degree of visual change created by the addition of another set of new monopole structures and 230 kV lines would be high to moderate, even with this APM. The overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant by Transmission System Alternative 7. See *Section D.13.4.2*). While still remaining Significant (Class I), Mitigation Measure V-2a is recommended.

KOP 25 – Residential - Trenton Street (Figures D.13-26A and D.13-26B)

Figures D.13-26A and D.13-26B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 25. This viewing location is from a residential neighborhood along Trenton Street, looking to the north. SDG&E's proposed monopole tangent structure no.480 would be visible within a foreground viewing distance. From this viewpoint, the proposed monopole tangent structure would be partially screened by an intervening residential landscaping. The proposed monopole structure would be 135 feet tall, and perceived as more visually prominent than the existing lattice tower, that rises 125 feet, and would be located further away from the viewer. Overall, considering both differences in base elevations and structure heights, the new monopole would be approximately 11 feet taller in height than the existing lattice tower. The overall degree of visual change, created by both the new monopole structures and 230 kV lines, would consequently be high. This overall visual change would occur within a foreground viewing distance of an existing residential area that is considered to be of high visual sensitivity. Consequently, the visual impacts would be significant (Class I). No mitigation is available that would reduce these visual impacts to less than significant, due to the open skylined visibility conditions that would occur. (This impact would be mitigated to less than significant with Transmission System Alternative 7. See Section D.13.4.2). While still remaining Significant (Class I), Mitigation Measure V-2a is recommended.

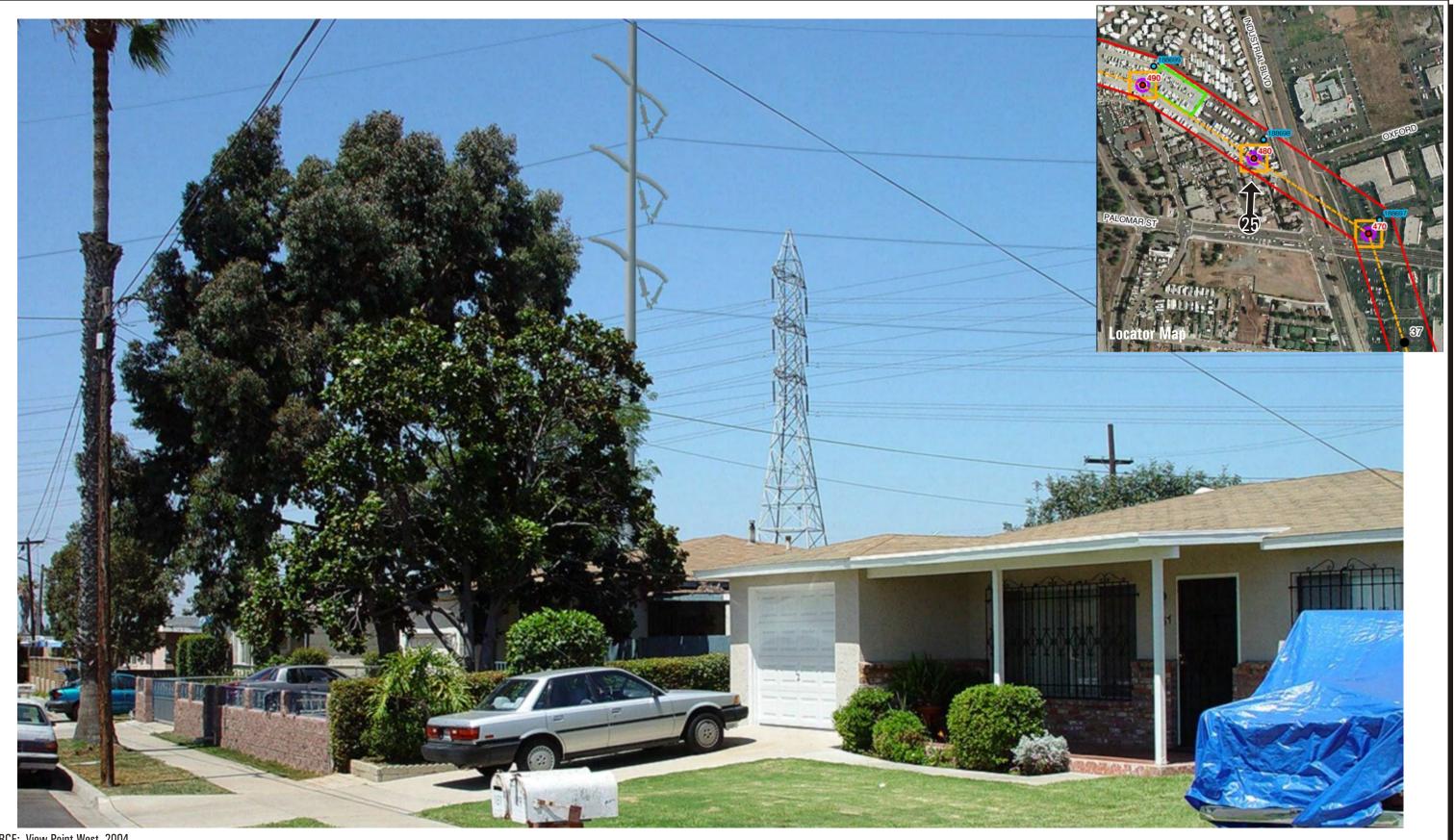
KOP 26 – Interstate 5 South (Figures D.13-27A and D.13-27B)

Figures D.13-27A and D.13-27B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 26. This location is from Interstate 5 South, and shows typical views to the south and southeast. The visual character of the road is influenced by SDG&E's existing lattice structures, exotic landscaping and trees, and a mixture of commercial and industrial buildings. SDG&E's proposed monopole structures no. 480 and 490 would be visible from this KOP, and range in height from 125 feet to 130 feet. The adjacent lattice



The existing residential view is to the north, from Trenton Street. SDG&E's existing 138kV lattice structure and conductors are openly visible, within a foreground viewing distance. Partial screening is provided by intervening residential structures and landscape trees.

OMPPA Transmission Project EIR KOP 25 - Residential - Trenton Street - Existing View D.13-26A



SOURCE: View Point West, 2004

The proposed 230kV monopole structure (No. 480) and conductors are shown in this visual simulation. Located closer to the viewer than the lattice tower, the proposed 135' tall monopole structure appears substantially greater in size than the 125' tall lattice tower. Visual contrasts would be strong, and the monopole and 230kV conductors would be visually dominant from this viewpoint.

OMPPA Transmission Project EIR KOP 25 - Residential - Trenton Street - Visual Simulation D.13-26B



SOURCE: SDG&E PEA, 2004

The existing interstate view from I-5, is looking south towards SDG&E's existing 138kV lattice structures and conductors, as well as other utility lines, exotic tree landscaping, and mixed commercial and industrial buildings. Views to SDG&E's facilities are within a foreground to middleground viewing distance, and partially visible due to intervening vegetation screening.

OMPPA Transmission Project EIR KOP 26 - Interstate 5 South - Existing View D.13-27A



SOURCE: SDG&E PEA, 2004

Two of the proposed 230kV monopole structures (No. 480 and 490) and conductors are shown in this visual simulation. The monopoles would range in height from 125' to 135'. At this viewing distance, the structures appear similar in scale with intervening and closer trees, as well as SDG&E's existing lattice towers (102' and 125' tall). Visual contrasts would be moderate to weak. Duration of views would be short-term and transient in nature.

OMPPA Transmission Project EIR **KOP 26** - Interstate 5 South - Visual Simulation D.13-27B

towers are a similar scale, and reach 102 feet and 125 feet in height. The overall degree of visual change created by both the new monopole tangent and angle structures and 230 kV lines would be moderate to low in this setting due to the similar large to moderate scale of the existing commercial and industrial buildings. This overall visual change would occur within a foreground to middleground viewing distance along a local roadway where views would be intermittent and of short-duration. The visual sensitivity of the road is assessed as moderate and the visual impacts would, consequently, be less than significant (Class II) with Mitigation Measure V-2a incorporated.

Impact V-3: Long-term Visual Impacts – Visual/Aesthetic Impacts from Modified SDG&E Bridge Structures and Conductors

Sweetwater River Transition Area to Sicard Street Transition Area

North of the Sweetwater River, the proposed project would entail placing the 230 kV transmission line on SDG&E's existing, modified bridge structures through National City and the City of San Diego to the Sicard Street Transition Area. These changes would be wholly within SDG&E's existing ROW. The degree of visual contrast that would result from modifying SDG&E's existing lattice structure arms, and stringing an additional 230 kV circuit would be weak, and not perceived by most viewers. KOP 28 documents the representative long-term visual changes that the project would entail in these areas.

KOP 28 – Harbor Drive Near 28th Street, View Looking East (Figures D.13-28A and D.13-28B)

Figures D.13-28A and D.13-28B present the existing views and future views, with the Proposed Project overhead transmission structures, from KOP No. 28. This location is from Harbor Drive, near 28th Street, looking east. The visual character of the road is influenced by SDG&E's existing lattice bridge structures, exotic landscaping and trees, and a mixture of commercial and industrial buildings. The visual sensitivity of the road is assessed as moderate to low. SDG&E's proposed 230 kV line would be strung on the existing bridge structures. The bridge structure arms would be modified and extended slightly to accommodate the new conductors. The overall degree of visual change created by the modified bridge structure arms and 230 kV conductors would be very low and not perceived by most motorists (Impact V-3, Class III). This overall visual change would occur within a foreground viewing distance along Harbor Drive where views would be of short-duration.



PHOTO SOURCE: SDG&E PEA, 2004

The existing roadside view from Harbor Drive, near 28th Street, is looking east towards SDG&E's existing 138kV lattice bridge structures and conductors, as well as other utility lines, exotic tree landscaping, and mixed commercial and industrial buildings. Views to SDG&E's facilities and access road are within a foreground viewing distance, and partially visible due to intervening vegetation screening.

OMPPA Transmission Project EIR KOP 28 - Harbor Drive - Existing View D.13-28A

FIGURE



SOURCE: SDG&E PEA, 2004

SDG&E's proposed bridge structure modifications and new 230kV conductors are shown in this **visual simulation**. Minor structure modifications are proposed by SDG&E to the bridge structure arms, and would be imperceptible to most viewers. Very weak structure changes and associated visual contrasts would occur. Visual contrasts would primarily result from the additional lines installed for the 230kV conductor. These line contrasts would be weak, when compared to the existing setting. Duration of views would be short-term and transient in nature.

OMPPA Transmission Project EIR KOP 28 - Harbor Drive - Visual Simulation

figure D.13-28B

Impact V-4: Long-term Visual Impacts – Visual/Aesthetic Impacts to Landscape Resources due to physical ground disturbances associated with project construction and operation

Impact V-4 would occur if the proposed project would directly impact natural or cultural landscapes and landforms. SDG&E would be installing the proposed overhead facilities in existing SDG&E ROW. As part of the Proposed Project, SDG&E has committed to avoiding and minimizing impacts to landforms and landscape aesthetic values, by implementing APMs 3, 4, 5, 40 and 41. Located in an existing utility ROW, the physical ground disturbances associated with project construction would not substantially impact scenic vistas or natural scenic resources. Long-term aesthetic impacts due to ground disturbance to visual resources would, consequently, be less than significant (Class III). The Proposed Project would likely require the removal of mature exotic trees, however, from existing parks where necessary to provide adequate conductor clearances. The removal of mature trees is likely in SDG&E Park, and may be required in other park and recreation areas as well. Implementation of Mitigation Measure V-4a would ensure that long-term visual impacts to landscape resources would be less than significant (Class II).

Mitigation Measure for Impact V-4, Long-Term Impacts to Landscape Resources

V-4a Reduce long-term landscape impacts. If, and where, the proposed OMPPA Project requires the removal of existing exotic trees or other mature trees from parks, recreation areas, or other community uses, SDG&E shall mitigate landscape impacts by moving, replacing and/or replanting trees in other suitable areas. SDG&E shall coordinate with the City of Chula Vista to determine the amount, type, and appropriate placement of landscape trees for park and recreation and community areas affected. SDG&E shall submit final construction plans demonstrating compliance with this measure to the CPUC for review and approval at least 60 days prior to the start of construction.

D.13.3.4 230 kV Underground Cable

Impact V-1: Short-term Visibility of Construction Activities and Equipment

South Bay Power Plant to Sweetwater River

SDG&E is proposing to install the 230 kV circuit underground along the Chula Vista Bayfront, within SDG&E's existing ROW. The Proposed Project would cause temporary short-term construction impacts to natural and cultural coastal areas. Installation of the underground 230 kV circuits would have short-term impacts to potentially scenic views to the Chula Vista Bayfront due to the presence of construction equipment and crews. However, SDG&E would restore the underground trench and construction areas to pre-existing or improved conditions, following construction. (APMs 3 and 4).

Construction impacts would be temporary (Impact V-1), and with implementation of Mitigation Measure V-1a (construction screening) all short-term impacts would be mitigated to less than significant (Class II).

Sicard Street to Old Town

All short-term visual impacts from construction would be between the Sicard Street Transition Station and the Old Town Substation, and would generally be the same or similar to those described above for the South Bay Power Plant to Sweetwater River segment. The underground portion of the Proposed Project would be located beneath existing paved streets or transportation rights-of-way. Therefore, there would be no long-term visual evidence of this part of the project, beyond the intermittent access vaults that would be required for maintenance. No additional long-term visual impacts would result. Short-term impacts visual impacts would be possible during construction from SR 75 (State Scenic Highway). Construction impacts would be temporary (Impact V-1), and with implementation of Mitigation Measure V-1a (construction screening) all short-term impacts would be mitigated to less than significant (Class II).

Impact V-2: Long-term Visual Impacts – Visual/Aesthetic Impacts from New Facilities and Conductors – New Transition Cable Poles

South Bay Power Plant to Sweetwater River

Two transition cable poles are proposed along this segment. The two transition cable poles would be located west of I-5, near the Chula Vista Bayfront, at approximately (originally proposed) structure number 510 (south of the South Bay Power Plant) and existing bridge structure 189507 (south of the Sweetwater River). Visual impacts from the transition cable poles would primarily be long-term. Both facilities would be located within SDG&E's existing ROW, where visual qualities have historically been highly influenced with utility facilities. Impacts from these two poles would be localized and not block or substantially alter potentially scenic bayfront views. With implementation of APM 69 and Mitigation Measure V-2a, long-term visual changes would be less than significant (Class II), when compared to the existing setting. These facilities would also be consistent with the City of Chula Vista's and SDG&E's MOU to underground future utilities. In this regard, long-term visual changes associated with these two cable pole facilities would be beneficial since the transition cable poles would allow the undergrounding of the 230 kV circuit along the bayfront, that would serve to preserve and enhance scenic bayfront views from city parks and the Sweetwater Marsh National Wildlife Preserve.

Impact V-4: Long-term Visual Impacts – Visual/Aesthetic Impacts to Landscape Resources due to physical ground disturbances associated with project construction and operation

South Bay Power Plant to Sweetwater River Transition Area

The installation of the underground 230 kV cable would have no long-term adverse visual or aesthetic impacts. With implementation of APMs 3 and 4, SDG&E will restore all areas disturbed during construction to existing or improved conditions.

Sicard Street to Old Town

As discussed in *Section D.12*, the Proposed Project would not result in long-term visual effects to the NEVP that is being developed by CCDC. The proposed project would not result in substantial constraints to the planned landscaping of shade trees along Pacific Coast Highway median. This impact is considered less than significant (Class II) with implementation of Mitigation Measures T-8a and T-8b (see *Section D.12*).

D.13.3.5 Transition Station

The proposed transition station at Sicard Street would be located in a parking lot in a highly urbanized and industrial area of the City of San Diego. Visual quality is characterized by cultural landscapes of mixed light and heavy industrial uses. Visual impacts from the transition station would primarily be long-term (Impact V-2) and impacts would be less than significant (Class III). The visual simulation for KOP 29 is representative of the long-term visual impacts from this facility.

KOP 29 – Sicard Street at Main Street (*Figure D.13-29A and D.13-29B*)

Figure D.13-29A presents the existing views from Sicard Street at Main Street, looking southwest. Views are to industrial storage tanks and marine terminal facilities. Roadside landscaping partially screens views in this direction. *Figure D.13-29B* shows SDG&E's proposed transition station from a side-view perspective. The scale and character of this facility is similar to, and blends with, surrounding industrial uses and marine terminal facilities. In addition, SDG&E has proposed landscaping with broadleaf evergreens inside the fenced area along Main Street (APM 69). Consequently, the long-term visual impacts of the proposed transition station would be low, due to the weak visual contrasts that the facility would impose in this existing industrial landscape. Visual impacts would be slightly adverse, and less than significant (Class III).

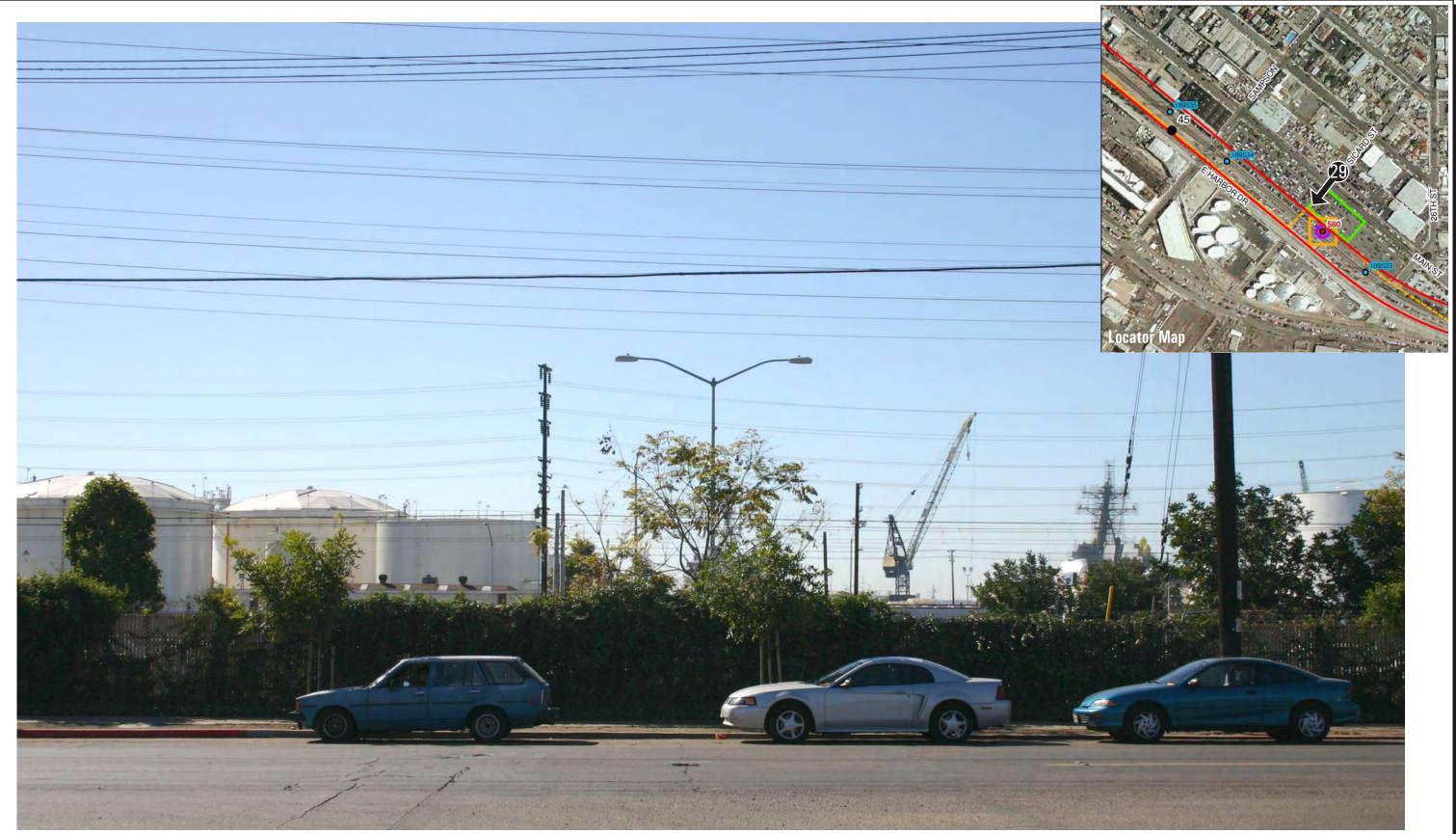


PHOTO SOURCE: SDG&E PEA, 2004

The existing roadside view from Sicard Street at Main Street, is looking southwest towards SDG&E's existing 138kV conductors and industrial land uses, including storage tanks and marine terminal facilities. Roadside landscaping provides some screening of the industrial views.

OMPPA Transmission Project EIR KOP 29 - Sicard Street - Existing View D.13-29A

FIGURE

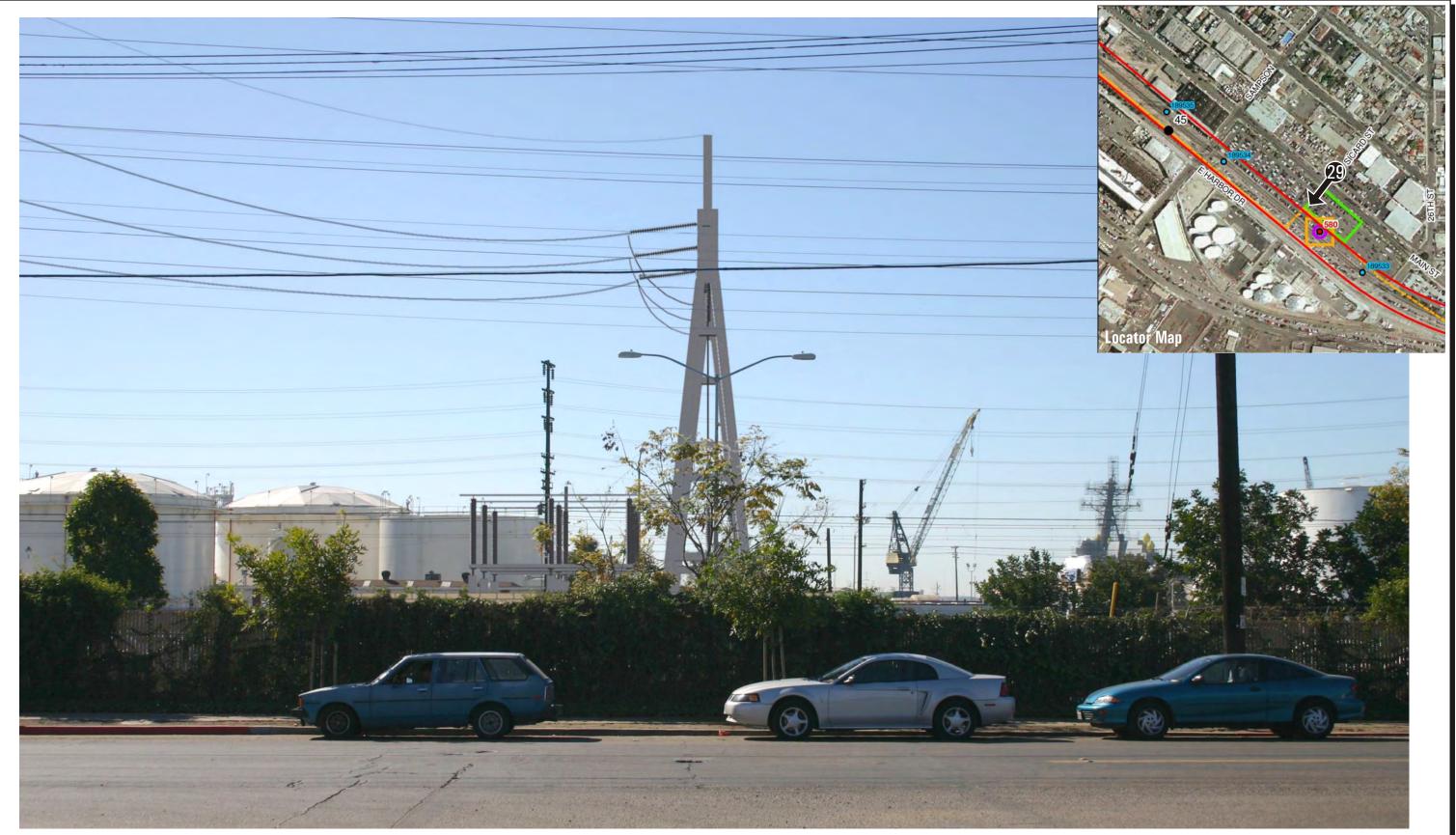


PHOTO SOURCE: SDG&E PEA, 2004, Simulation by View Point West

SDG&E's proposed transition station at Sicard Street is shown in this **visual simulation**. The transition station would be located in a parking lot and would be partially screened by streetscape landscaping. Viewed within the existing setting, these visual changes and contrasts would be weak. Duration of views would be short-term and transient in nature.

OMPPA Transmission Project EIR KOP 29 - Sicard Street - Visual Simulation

figure D.13-29B

D.13.3.6 Modifications to Sycamore Canyon, Miguel and Old Town Substations

The Proposed Project would require modifications of existing facilities at the Sycamore Canyon, Miguel and Old Town Substations. Construction-related visual impacts would be short-term and would occur within the existing SDG&E substation facilities and properties, which are fenced. There are no visually sensitive receptors at the Sycamore Substation, and visibility to the Miguel Substation is limited as well. Sensitive residential receptors are adjacent to the Old Town Substation, where visual impacts from construction activities would occur and would be viewed in conjunction with the existing utility facility. This facility is industrial in visual character. Visual impacts from modifying the existing Old Town Substation would be short-term. Construction activities would primarily consist of replacing equipment within the developed substation facility, including a 230kV bus and conductor controls and relays. Consequently, visual impacts from the installation of substation equipment would be minor and less than significant (Class III).

Long-term, the installation of new structures or equipment at these substation facilities would appear consistent with the visual characteristics of the existing substation structures. New substation equipment would be of a similar scale as the existing equipment, and similar in character, including color, texture and form. Consequently, the overall degree of visual change would be weak at all substation sites, when compared to the existing facilities' visual characteristics. Since there are no sensitive receptors within view of the Sycamore Substation, no visual impacts are expected.

Visual impacts at the Miguel Substation would be less than significant (Class III) since any visible changes in line, form, color and texture resulting from the new equipment would be perceived as weak and would affect a limited number of residential viewers and nearby recreationists using open space on surrounding hills at middleground viewing distances. Consequently, due to the weak visual contrast that would be perceptible at middleground viewing distances, visual changes at the Miguel Substation would appear subordinate compared to the existing landscape character. To the extent that changes are visually evident, any additional visual would be low.

Visual impacts at the Old Town Substation would be low to moderate. The physical changes to this substation would consist of replacing and installing equipment within the facility that would be similar in visual character and scale as the existing facility. These changes would be potentially visible from adjacent residences. Consequently, the overall visual change would be low to moderate. Visual impacts (Impact V-2) are assessed as adverse, less than significant (Class III).

No short-term or long-term impacts to scenic vistas, scenic resources, including state scenic highways, would result from the substation modifications proposed. Similarly, since SDG&E is not proposing new lighting or increased light sources, there would be no visual impacts associated with new sources of substantial light or glare.

D.13.4 Project Alternatives

D.13.4.1 SDG&E Design Option Alternatives (Pacific Highway Bridge Attachment, Sicard Street Transition Cable Pole, Harbor Bridge Attachment and South Bay Power Plant to Sweetwater River Overhead Design Alternatives)

Environmental Setting

The existing setting for these design alternatives would be the same as SDG&E's Proposed Project, since each is located either within SDG&E's existing easements, or within the same streets as previously described for the Proposed Project.

Environmental Impacts and Mitigation Measures

Pacific Highway Bridge Attachment Design Alternative. Visual impacts from the Pacific Highway Bridge Attachment Alternative would primarily be the same as described for the proposed project for V-1 (*Section D.13.3.4*). This alternative would result in the 230 kV cable being attached to the bridge, rather than trenched under the San Diego River. No additional long-term visual impacts would result. Construction impacts would occur to an additional 1400 feet of roadways that would impact local residents, short-term. Construction impacts would be temporary (Impact V-1), and Mitigation Measure V-1a (construction screening) would reduce short-term visual impacts due to construction to less than significant (Class II).

Sicard Street Transition Cable Pole Design Alternative. Visual impacts would be similar to those described in *Section D.13.3.5*. The transition cable pole would be slightly less massive in size, and in this regard would result in slightly less long-term visual impacts. The setting is in a highly industrial section of the City of San Diego, however. Consequently, this pole design would have a less than significant visual effect on the setting (Class III).

Harbor Drive Bridge Attachment Design Alternative. Visual impacts from the Harbor Drive Bridge Attachment Design Alternative would primarily be the same as described for the Proposed Project for V-1 (*Section D.13.3.4*). This alternative would result in the cable being attached to the Harbor Drive Bridge, rather than trenched under the Port of San Diego rail facilities. No additional long-term visual impacts would result. Construction impacts would be temporary (Impact V-1), and with implementation of Mitigation Measure V-1a (construction screening) would be less than significant (Class II).

South Bay Power Plant to Sweetwater River Overhead Design Alternative. The South Bay Power Plant to Sweetwater River Overhead Design Alternative would entail installing seven new monopole structures and modifying SDG&E's existing bridge structures along the Chula Vista Bayfront. The

new and modified structures, combined with the 230 kV overhead circuit, would further increase the industrial character of the Chula Vista Bayfront. These facilities would be viewed within the context of both existing industrial and commercial land use visual influences, as well as the San Diego Bay and Sweetwater Marsh National that provide unique and important scenic amenities to the city. The visual impacts of this alternative would be visually evident, where the new structures would be installed from west of I-5 to the vicinity of the South Bay Switchyard. *Figure D.13.30A* provides an existing view of this area from KOP 27 and *Figure D.13-30B* provides a visual simulation of this alternative from the Marina View Park. As shown in *Figure D.13-30B*, visual changes to the existing setting would be adverse but mitigated to less than significant (Class II) with implementation of Mitigation Measure V-2a.

Comparison to the Proposed Project

The visual impacts of the Pacific Bridge Attachment Design Alternative, Sicard Street Transition Pole Alternative, and Harbor Drive Bridge Attachment would be the same as, or very similar to, the Proposed Project. The Pacific Highway Bridge Attachment would have slightly greater short-term construction-related visual impacts to area residents, due to the increased length of the alternative (Impact V-1). The Sicard Street Transition Pole would have slightly less long-term visual impacts than the transition station (Impact V-2). All visual impacts would be minor and less than significant (Class III), similar to the Proposed Project in these localized areas.

The South Bay Power Plant to Sweetwater River Overhead Design Alternative would have greater, long-term visual consequences (Class II Impacts V-2 and V-3), compared to the proposed project that would underground the 230 kV circuit along the Chula Vista Bayfront and have no long-term visual impact.

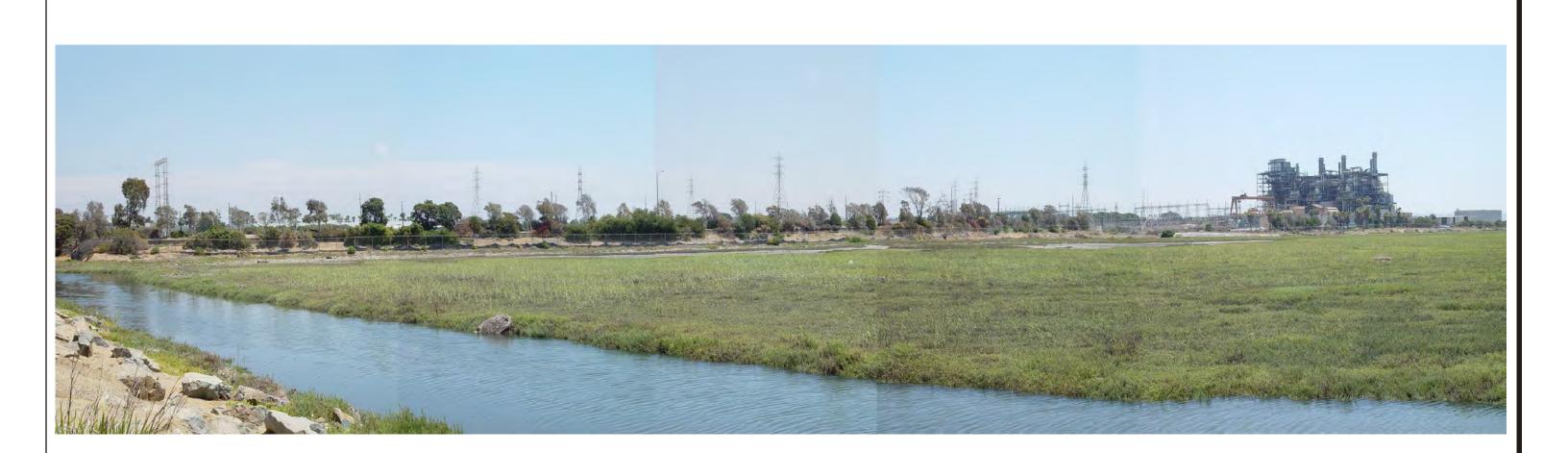
D.13.4.2 Transmission System Alternative 7 PV1 Variation - Miguel Substation to South Bay Power Plant

Environmental Setting

Section D.13.1 describes the existing visual setting along the Miguel to South Bay Power Plant Area that this alternative would replace. The existing visual conditions are generally described in *Section D.13.1* and specifically described for KOP's 1 through 27 that would be affected by this alternative.

Environmental Impacts and Mitigation Recommendations

The visual impacts of the Transmission System Alternative would entail the following types of aesthetic changes:



SOURCE: View Point West, 2004

The existing park view is from Marina View Park, looking south. Existing foreground and middleground views are to the Chula Vista Bayfront, and existing commercial and industrial areas, including SDG&E's existing transmission facilities and the South Bay Power Plant. The proposed project consists of undergrounding the 230kV circuit west of Bay Boulevard. Consequently, the proposed project would not change the visual quality to these bayfront views. No long-term adverse visual impacts would result, following construction and restoration.

OMPPA Transmission Project EIR KOP 27 - Marina View Park Existing and Future View D.13-30A

FIGURE



SOURCE: View Point West, 2004

The overhead alternative consists of installing seven new structures along the bayfront and utilizing SDG&E's (modified) bridge structures to support an overhead 230kV circuit west of Bay Boulevard. The new poles and overhead circuit would add to the existing industrial influences of the South Bay Power Plant, switchyard and existing bridge structures and 138kV circuits. These facilities would be viewed within the context of both existing industrial and commercial land use visual influences, as well as the San Diego Bay and Sweetwater Marsh that provide unique and important scenic amenities. Visual changes to the existing setting would be adverse but mitigated to be less than significant (Class II).

OMPPA Transmission Project EIR KOP 27 - Marina View Park - Future View D.13-30B

FIGURE

Impact V-1: Short-term Visibility of Construction Activities and Equipment

This alternative would entail the same construction activities and short-term visual effects as described previously for the Proposed Project (See *Section D.13.3.3*). In addition, this alternative would entail the removal of the existing lattice towers and conductors from SDG&E's ROW, from the Proctor Valley Substation to the South Bay Power Plant Area. Additional temporary visual impacts would result from the presence of equipment and work forces along the ROW to dismantle and remove the existing lattice structures, and to restore the ROW to pre-existing or improved conditions. Construction and dismantling activities would be most visible for those elements of the Proposed Project that would be adjacent to residential neighborhoods and parks and major travel routes (e.g., I-805 and I-5).

Due to the relatively short duration of project construction of the 230 kV monopoles and the removal of the existing 138 kV lattice towers, visual impacts related to this phase of the project would be less than significant (Class II) with implementation of Mitigation Measure V1a and APMs 3, 4, 5, 40 and 41.

Impact V-2: Long-term Visual Impacts – Visual/Aesthetic Impacts from New Facilities and Conductors – New Monopoles and Overhead Conductors

The long-term visual effects of the Transmission System Alternative 7 PV 1 Variation would primarily be the result of the following two major actions of this alternative: 1) installing the new 230 kV monopoles and 230 kV/138 kV conductors; in conjunction with 2) dismantling and removing the existing 138 kV lattice structures and one of the 138 kV conductors, between the Proctor Valley Substation and the South Bay Power Plant. The Transmission System Alternative would essentially result in the installation of the Proposed Project monopoles and 230 kV conductor, as previously described for KOP's 1 through 27, in *Section D.13.3.3*. Under the Transmission System Alternative, one of the existing 138 kV conductors (currently on the lattice structures) would be relocated to the new monopoles, thus filing the vacant position shown in the visual simulations for the proposed project (*Figures D.13.2B through D.13-27B* for KOP's 1 through 26). The existing lattice towers for the 138kV lines would be removed from the ROW, between the Proctor Valley Substation and the South Bay Power Plant.

Between the Miguel Substation and the Proctor Valley Substation, this alternative would result in the same long-term visual impacts as described previously for the proposed project. Along this segment, Alternative 7, PV1 Variation would entail the installation of the proposed monopoles and conductor, and the existing lattice structures would remain in place. Viewer groups that would be affected to the same degree as the proposed OMPPA Project include travelers along SR 125 (currently under construction), and future residential homes, being developed in the vicinity of Mount Miguel Road (See Section D.13.3.3, discussion of KOP 1, Impact V-2 and Figures D.13-2a and D.13-2b). Visual

impacts along this segment would be Significant (Class I). Although remaining Significant (Class I), Mitigation Measure V-2a is recommended.

Between the Proctor Valley Substation and the South Bay Power Plant, t Alternative 7, PV 1 Variation would result in significant beneficial visual changes to sensitive viewer groups and viewing conditions by removing the existing 138 kV lattice structures and one of the 138 kV circuits. Representative visual simulation examples in this section demonstrate the long-term aesthetic changes of this alternative from a select number of the KOP's, indicated below.

KOP 2 – Residential – Coltridge Lane - Figure D.13-3C
KOP 7 – Bonita Vista Middle School and Residential – Figure D.13-8C
KOP 8 – Discovery Park – Figure D.13-9C
KOP 10 – Sunridge Park – Figure D.13-11C
KOP 18 – Residential – Spruce Street – Figure D.13-19C
KOP 19 – Reinstra Ball Fields – Figure D.13-20C
KOP 22 – 5-10 Mobile Home Ranch – Figure D.13-23C

The analysis of the visual changes and related impacts for the Transmission System Alternative are contained on these figures provided in *Section D.13.3.3*. Overall, the long-term visual impacts to all of these KOP's, as well as to the other areas within view of the existing SDG&E ROW would be reduced to adverse, less than significant (Class III) impacts. The proposed monopoles and 230 kV/138 kV conductors would still result in contrasts ranging from moderate to strong, depending on the viewer location and conditions. The degree of overall change, however, when compared to the existing visual conditions associated with the ROW and existing lattice towers and conductors, would range from beneficial (Class IV) to slightly adverse (Class III). The visual effects of this alternative would be substantially reduced by the removal of the lattice towers that are more industrial in character, and dissimilar from typical urban design elements, as well as the proposed 230 kV monopoles. No additional mitigation measures are recommended, beyond those previously described for the proposed project (SDG&E's APMs 67 and 68)

D.13.5 Mitigation Monitoring, Compliance, and Reporting Table

Table D.13-3 shows the mitigation monitoring, compliance, and reporting program for visual resources. The CPUC is responsible for ensuring compliance with the monitoring program for visual resources. The Agency mitigation measures (MMs) as well as the APMs that SDG&E has made part of the Proposed Project are listed. *Table D.13-3* indicates whether the measure is applicant-proposed or agency-recommended. As indicated in *Table D.13-3*, the APMs are provided in shaded text and agency mitigation measures are provided in non-shaded text.

			МІТ	TABLI TIGATION MONITORING PR	E D.13-3 ROGRAM – VISU	AL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
V-1	Short-term visibility of construction activities and equipment		3	Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation. Maintenance of cut and fill slopes created by project construction activities shall consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix shall be done on slopes.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to periodically verify in the field that erosion control measures have been used. Effectiveness to be measured by whether accelerated sedimentation and erosion are visually evident within ROW and adjacent areas.	During and following construction. Measure applies to all construction areas where physical ground disturbances would occur. This includes: Miguel to Sicard Street and Fanita Junction to Sycamore Canyon
			4	In areas where recontouring is not required, vegetation would be left in place wherever feasible and original ground contour shall be maintained to avoid excessive root damage and allow for resprouting.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify in the field. Effectiveness criteria is visual evidence that the original vegetation is resprouting and recontouring has not occurred.	During and following construction. Measure applies to all construction areas for the Miguel to Sicard Street and Fanita Junction to Sycamore Canyon portions of the project, where ground disturbances would occur.
			5	In areas where ground disturbance is substantial or where recontouring is required (e.g., marshaling yards, tower sites, spur roads from existing access roads), surface restoration shall occur as required by the governmental agency having jurisdiction. The method of restoration normally would consist of returning disturbed areas back to their original contour, reseeding (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches for erosion control. Erosion would be minimized on access roads and other locations primarily with water bars. The water bars would be constructed using mounds of	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to ensure that commitments have been incorporated into construction contracts. CPUC to verify in the field. Effectiveness criteria is visual evidence and record that disturbed areas have been returned to pre- construction conditions, and that erosion control measures have been installed and are minimizing erosion.	During and following construction in all disturbance areas for the Miguel to Sicard Street and Fanita Junction to Sycamore Canyon portions of the transmission project, where recontouring has occurred.

			МІТ	TABLI IGATION MONITORING PR	E D.13-3 ROGRAM – VISU	JAL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				soil shaped to direct the flow of runoff and prevent erosion. Soil spoils created during ground disturbance or recontouring shall be disposed of only on previously disturbed areas, or used immediately to fill eroded areas. Cleared vegetation shall be hauled off- site to a permitted disposal location.			
			40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) shall follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads would be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify through review of pre-construction plans and profiles and during construction in the field.	During and following construction in all areas where ground disturbances will occur. This measure applies to the Miguel to Sicard Street and Fanita Junction to Sycamore Canyon portions of the transmission project.

			NATA	TABLI TIGATION MONITORING PR	E D.13-3	LAL DESOLIDCES	
No.	Impact	MM	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
V-1, V-2	Short-term visibility of construction activities and equipment. Long-term visual impacts – visual/ aesthetic impacts from new facilities and conductors – new monopoles and overhead 230 kV conductor.		41	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to avoid sensitive and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high- value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (also see APM 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S."	SDG&E to implement measure as described.	CPUC to verify through review of pre-construction plans and profiles and during construction in the field.	During and following construction. This measure applies to the Miguel to Sicard Street and Fanita Junction to Sycamore Canyon portions of the transmission project.
V-2, V-3	Long-term visual impacts – visual/ aesthetic impacts from new facilities and conductors – new monopoles and overhead 230 kV conductor		48	Non-specular conductors would be used to reduce visual impacts.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify through review of pre-construction plans and profiles and during construction in the field. Effectiveness criteria is lack of glare on conductors during mid-day viewing conditions.	During and following construction. This measure applies to the Miguel to Sicard Street and Fanita Junction to Sycamore Canyon portions of the transmission project.

			MIT	TABLI TIGATION MONITORING PR	E D.13-3 ROGRAM – VISU	JAL RESOURCES					
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location				
	Long-term visual impacts – visual/ aesthetic impacts from modified SDG&E bridge structures and conductors.										
V-2	Long-term visual impacts – visual/ aesthetic impacts from new facilities and conductors – new monopoles and overhead 230 kV conductor		49	Dull-finish poles may be used to reduce visual impacts.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify through review of pre-construction plans and profiles and during construction in the field. Effectiveness criteria is lack of reflectivity on poles.	During and following construction. This measure applies to the Miguel to Sicard Street and Fanita Junction to Sycamore Canyon portions of the transmission project, including all new poles and cable transition stations/poles.				
			61	To reduce visual contrast, new pole locations would correspond with spacing of existing transmission line structures where feasible and within the limit of pole design. The normal span would be modified to correspond with existing towers where feasible, but not necessarily at every new pole location.	SDG&E to implement measure as described.	CPUC to verify through review of pre-construction plans and profiles and during construction in the field. Effectiveness criteria is similar spacing of proposed monopoles with existing lattice towers, except in instances where terrain, sensitive resources, land uses, or other engineering constraints require different spacing or pole position.	During and following construction. This measure applies to the Miguel to South Bay and Fanita Junction to Sycamore Canyon portions of the transmission project, including all new poles and cable transition stations/poles.				
			62	To reduce potential visual impacts at highway, canyon, and trail crossings, poles would be placed at the maximum feasible distance from the crossing within limits of	SDG&E to implement measure as described.	CPUC to verify in the field. CPUC to verify through review of pre-construction plans and profiles and during construction in the field.	During and following construction. This measure applies to the Miguel to Sicard Street portion of the transmission project, and includes the				

					E D.13-3		
				TIGATION MONITORING PR Mitigation Measure/	ROGRAM – VISU	AL RESOURCES Monitoring Requirements	
No.	Impact	MM	#s	Applicant Proposed Measure	Actions	and Effectiveness Criteria	Timing of Action and Location
				pole design.		Effectiveness criteria is placement of poles in positions that do not directly impact canyons and minimize potential visibility due to intervening distance or vegetation.	following locations: canyons Long Canyon, Bonita Canyon, Rice Canyon, and Telegraph Canyon, highways – I-125, Telegraph Canyon Road, Otay Lakes Road, I-805, and I-5.
			67	Selective Tree Planting (MP 29.5 to MP 36.5). Where close-range, unobstructed views of the new poles are available at distances of less than 250 feet from public parks and residential areas, trees consistent with SDG&E's Landscape Guideline will be installed individually or in informal groupings within the SDG&E easement to partially screen views of the new structures. In consultation with the City of Chula Vista Public Works Department and/or homeowners, trees may also be installed at key locations on residential or park property. Plant material will be appropriate to the local landscape setting and will be consistent with SDG&E and CPUC requirements for landscaping in proximity to transmission lines.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify proposed tree planting locations through review of preconstruction plans. CPUC to verify consultation with the City of Chula Vista and homeowners through meeting notes, and review of project implementation n the field.	During and following construction. This measure applies to the Miguel to South Bay and Fanita Junction to Sycamore Canyon portions of the transmission project, including all new poles and cable transition stations/poles.
			68	Minor adjustment to proposed pole locations (MP 29.5 to MP 36.5). Where close range, unobstructed views of the new poles are available and, where technically feasible, the proposed locations of new tubular steel poles will be adjusted slightly within the SDG&E ROW to reduce impacts on foreground views as seen from public roadways and/or park land. Adjustments to proposed pole locations will take advantage of screening provided by existing vegetation, topography, and/or structures located in the immediate vicinity in order to reduce the project's effect on public sightlines. Adjustments to locations for poles	SDG&E to implement measure as described.	CPUC to verify through review of pre-construction plans and profiles and during construction in the field. Effectiveness criteria is placement of poles in positions that do not increase, but instead minimize, the visual impacts as documented in EIR. CPUC to verify in the field.	During and following construction. Measure applies to the Miguel to South Bay Portion of the Project, between M.P. 29.5 and 36.5.

			MIT	TABLE TIGATION MONITORING PR	E D.13-3 ROGRAM – VISU	JAL RESOURCES	
No.	Impact	ММ	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
				#200 (near J Street), #250 (at Greg Rogers Park),and #400 (near 4th Avenue) in Chula Vista will be considered.			
			69	Sicard Street and Chula Vista Bayfront Transition Areas – Sicard Street - Tree planting. Broadleaf evergreen trees will be installed along the east side of the site on the inside of the fenceline, parallel to Main Street to partially screen views of the transition station structures and equipment and to integrate the project with its surroundings as seen from Sicard Street and Main Street. Placement of trees will allow for clearances of overhead conductors.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify proposed tree planting locations through review of preconstruction plans. CPUC to verify measure implementation in the field. Effectiveness measure is that the visibility of the transition stations are partially screened by surrounding landscaping.	During and following construction. This measure applies to the Sicard Street Transition Area, and the two transition stations along the Chula Vista Bayfront, near structure numbers 510 (originally proposed pole location) and existing bridge structure 189507.
				Broadleaf evergreen trees will be installed along the west side of the site or within the Harbor Drive median to partially screen views of the transition station structures, to integrate the project with its setting, and to enhance the overall appearance of the Harbor Drive streetscape (if median planting is pursued, this measure will be implemented in consultation with the City of San Diego). All plant material will be appropriate to the local landscape setting and will be consistent with SDG&E and CPUC requirements for landscaping in proximity to transmission facilities.			
				Chula Vista Bayfront Transition Areas - Similar measures will also be applied to the transition areas proposed west of I-5, along the Chula Vista Bayfront. These include transition stations to be located near (originally proposed) pole location 510 and the existing bridge structure 189507			
V-1	Short-term visibility of construction	V-1a		Reduce visibility of construction activities and equipment. If visible from nearby residences and roadways, construction sites including all staging areas, material and equipment	SDG&E to implement measure as described and incorporate	CPUC to ensure that commitments have been incorporated into construction	During and following construction. This measure applies to all project construction

			МІТ	TABLE TIGATION MONITORING PR	E D.13-3 COGRAM – VISU	AL RESOURCES	
No.	Impact	мм	APM #s	Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location
	activities and equipment.			storage areas, substation facilities and transition stations, shall be visually screened with temporary screening fencing. All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and all disturbed areas shall be remediated to an original or improved condition upon completion of construction including replacement of any vegetation or paving removed during construction. SDG&E shall submit final construction plans demonstrating compliance with this measure to the CPUC for review and approval at least 60 days prior to the start of construction.	commitments into construction contracts.	contracts. CPUC to verify in the field. Project construction sites and staging and material and equipment storage areas will be screened during construction and all construction areas will appear in their original or improved condition following construction.	areas.
V-2	2 Long-term visual impacts – visual/ aesthetic impacts from new facilities and conductors – new monopoles and overhead 230 kV conductor.			Reduce visual contrasts of monopoles and insulators. It is recommended that monopoles and insulators be a neutral non- reflective material and tone (grey or tan) that would be visually compatible and similar to urban design standards for light poles and/or other similar streetscape facilities. SDG&E should coordinate with the County of San Diego, or the City of Chula Vista, as applicable, in the selection of the most visually appropriate materials for the proposed facilities within their jurisdictions.	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify proposed pole materials through review of preconstruction plans and samples. CPUC to verify consultation with the City of Chula Vista and City of San Diego through meeting notes, and review of project implementation in the field. Effectiveness Criteria – materials are non-reflective, and are considered consistent with urban design standards by to the City of Chula Vista and San Diego.	During and following construction. Measure applies to the Miguel to Sicard Street Transition Area portion of the transmission line project.
		V2b		Reduce long-term visual contrasts with landscape enhancements at parks and recreation areas. It is recommended that SDG&E provide landscape enhancements at parks and recreation facilities that are directly impacted by the overhead 230 kV monopoles and conductors. SDG&E should coordinate with the City of Chula Vista, to determine the	SDG&E to implement measure as described and incorporate commitments into construction contracts.	CPUC to verify proposed landscape enhancement locations through review of preconstruction plans. CPUC to verify consultation with the City of Chula Vista through meeting notes, and review of project implementation in the	During and following construction. Measure applies to the Miguel to South Bay portion of the transmission line project. Park and recreation areas to be considered include: Bonita Long Canyon Park, Discovery Park, Sunridge Park, Sunbow Park,

	TABLE D.13-3 MITIGATION MONITORING PROGRAM – VISUAL RESOURCES										
No.	No. Impact MM #s			Mitigation Measure/ Applicant Proposed Measure	Implementation Actions	Monitoring Requirements and Effectiveness Criteria	Timing of Action and Location				
				need for, and appropriate plant materials for mitigating the visibility and contrasts of the proposed facilities within park settings.		field. Effectiveness criteria is concurrence by the City of Chula Vista on the need for, placement of, and type of appropriate plant materials that would be installed.	Greg Rogers Park, Loma Verde Park/Reinstra Ball Fields, and San Diego Gas and Electric Park,				
V4	Long-term visual impacts – visual/ aesthetic impacts to landscape resources due to physical ground disturbances associated with project construction and operation	V4a		Reduce long-term landscape impacts. If, and where, the proposed OMPPA Project requires the removal of existing exotic trees or other mature trees from parks, recreation areas, or other community uses, SDG&E shall mitigated landscape impacts by moving, replacing and/or replanting trees in other suitable areas. SDG&E shall coordinate with the City of Chula Vista to determine the amount, type, and appropriate placement of landscape trees for park and recreation and community areas affected. SDG&E shall submit final construction plans demonstrating compliance with this measure to the CPUC for review and approval at least 60 days prior to the start of construction.	SDG&E to implement measure as described.	CPUC to verify proposed landscape enhancement locations through review of preconstruction plans. CPUC to verify consultation with the City of Chula Vista through meeting notes, and review of project implementation in the field. Effectiveness criteria is concurrence by the City of Chula Vista on the need for, placement of, and type of appropriate plant materials that would be installed.	During and following construction. Measure applies to the Miguel to South Bay portion of the transmission line project.				

E. COMPARISON OF ALTERNATIVES

This section summarizes and compares the environmental advantages and disadvantages of the Proposed Project and the alternatives evaluated in this EIR. This comparison is based on the assessment of environmental impacts of the Proposed Project and each alternative, as identified in *Sections D.2 through D.13. Section C* introduces and describes the alternatives considered in this EIR; *Appendix 2* to this EIR includes the Alternatives Screening Report, which documents all alternatives considered in the screening process.

Section E.1 describes the methodology used for comparing alternatives. *Section E.2* defines the environmentally superior alternative, based on comparison of each alternative with the Proposed Project. *Section E.3* presents a comparison of the No Project Alternative with the alternative that is determined in *Section E.2* to be environmentally superior.

E.1 Comparison Methodology

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (*e.g.*, visual impacts and permanent loss of habitat or land use conflicts). Impacts associated with construction (*i.e.*, temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6[d]), Evaluation of Alternatives, which states that:

"The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the proposed project as proposed."

If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

The following methodology was used to compare alternatives in this EIR:

- Step 1: Identification of Alternatives. An alternatives screening process (described in *Section C* and *Appendix 2*) was used to identify over 30 alternatives to the Proposed Project. That screening process identified five alternatives for detailed EIR analysis. Four of the alternatives consist of SDG&E design options and one alternative consists of a transmission system alternative. A No Project Alternative was also identified. No other feasible alternatives meeting most of the basic project objectives were identified that would lessen or alleviate significant impacts.
- Step 2: Determination of Environmental Impacts. The environmental impacts of the Proposed Project and alternatives were identified in *Sections D.2 through D.13*, including the potential impacts of construction and operation.
- **Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the Proposed Project were compared to those of each alternative to determine the environmentally superior alternative. Because several alternatives involve only a portion of the proposed Project route, the environmentally superior option was determined for each relevant element of the Proposed Project. As a result, the environmentally superior alternative can be a combination of constituents of the Proposed Project with one or more alternatives. Once derived, the environmentally superior alternative was then compared to the No Project Alternative. Although this comparison focuses on the 12 issue areas (described in *Sections D.2* through *D.13*), determining an environmentally superior alternative is difficult because of the many factors that must be balanced. Although this EIR identifies an environmentally superior alternative, it is possible that the decision-makers (the five members of the CPUC) could balance the importance of each impact area differently and reach a different conclusion.

E.2 Evaluation of Project Alternatives

Five alternatives in addition to the No Project Alternative were identified for evaluation in this EIR. A detailed analysis of environmental impacts and mitigation for all project alternatives is provided in *Sections D.2 through D.13*. *Table E-1* provides a summary of significant unmitigable (Class I) impacts for the Proposed Project and alternatives. *Table E-2* provides a summary of environmental impact conclusions for the Proposed Project and each of the alternatives for each environmental issue area.

TABLE E-1

Proposed Project vs. Alternatives: Summary of Significant Unmitigable (Class I) Impacts

Issue Area	Significant Impacts (Class I)
Proposed Project	
Visual Resources	V-2 (long-term visual impacts)
	KOP 1 – Residential - Mount Miguel Road
	KOP 2 – Residential - Coltridge Lane
	KOP 3 – Bonita Long Canyon Park
	KOP 4 – Residential – Pepperwood Court
	KOP 5 – Residential – Via Hacienda
	KOP 7 – Bonita Vista Middle School
	KOP 8 – Discovery Park
	KOP 9 – Residential – Chestnut Court
	KOP 10 – Sunridge Park
	KOP 11 - Residential – Blackwood Road
	KOP 13 – Sunbow Park
	KOP 14 – Residential Area, Crescent Drive
	KOP 15 – Greg Rogers Par
	KOP 16 – Residential - Raven Avenue
	KOP 18 – Residential – Spruce Street
	KOP 19 – Reinstra Ball Fields
	KOP 20 – SDG&E Park
	KOP 21 – Residential - Jacama Way
	KOP 22 – Residential - 5-10 Mobile Home Ranch
	KOP 24 – Residential – Lynwood South
	KOP 25 – Residential – Trenton Street
Alternatives – Class I Impacts Eliminated or Created	by Alternative
Transmission System 7 – Miguel to South Bay	Eliminates all Class I impacts to visual resources
South Bay Power Plant to Sweetwater River Overhead	Creates Class I impact to land use. Specifically Impact L-1 conflict with applicable land use plan, policy or regulation.

With the exception of visual impacts caused by the Proposed Project, there were no significant and unmitigable (Class I) impacts identified that could occur with the Proposed Project. As discussed in *Section D.13, Visual Resources,* significant and unmitigable (Class I) impacts were identified at various Key Observation Points (KOPs) between the Miguel Substation and South Bay Power Plant that would occur due to the Proposed Project. With the exception of the land use planning and policy conflicts due to the South Bay Power Plant Area to Sweetwater Overhead Design Alternative, there were no significant and unmitigable (Class I) impacts identified that could occur with the alternatives. As discussed in *Section D.7,* the South Bay

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	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS									
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant				
Air Quality	Impacts A-1 through A-5 determined to be Class III. Preferred from Sycamore	Impacts similar to Proposed Project, but would have a slightly longer construction time and impact area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would have a longer construction duration.				
	Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.					
Biological Resources	Between Sycamore Canyon and Fanita Junction and Miguel Substation to Sweetwater River transition area, Impacts B-1 through B-8 were determined to be between Class II and Class III.	No impacts would occur.	No impacts would occur.	No impacts would occur.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance within and adjacent to the Sweetwater Marsh.	Impacts B-1, B-2 would be greater due to additional construction activities and larger disturbance area, but would remain between Class II and Class III impacts.				
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	No Preference	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.					
Cultural Resources	Impacts C-1 and C-3 were determined to be Class III and Impact C-2 was determined to be Class II.	Impacts similar to Proposed Project, but likelihood of encountering unknown resources would be slightly greater due to increased impact area of trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance and no trenching in bridge area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance area.	Impacts would be reduced due to reduced construct- ion disturbance from attaching to existing overhead bridge structures.	Impacts similar to Proposed Project, but likelihood of encountering unknown resources would be slightly greater due to increased impact area.				
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old	No Preference	No Preference	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.					

						RISON OF ALTERNATIVES				
	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS									
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant				
	Town Substation.									
Geology, Soils and Paleontology	Impacts G-1 through G-7 were determined to be Class II and Class III. Preferred from Sycamore Canyon to Fanita Junction,	Geologic impacts are nearly identical to those associated with the Proposed Project.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance and no trenching in bridge area.	The geologic impacts are identical to those associated with the Proposed Project.	Impacts would be reduced due to reduced construct- ion disturbance from attaching to existing overhead bridge structures.	Geologic impacts are nearly identical to those associated with the Proposed Project but would be slightly greater due to larger disturbance area.				
	Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	Preferred design option at Harbor Bridge	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.					
Hydrology and Water Quality	Impacts H-1, H-2, H-6 and H-7 determined to be Class III and Impacts H-3, H-4, and H-5 were determined to be Class II and Class III.	Would eliminate directional drill under San Diego River and therefore reduce H-3 and H-5 impacts from Class II to Class III.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Would reduce construction disturbance area as well as eliminate directional drill under the Sweetwater Marsh and therefore would reduce hydrology and water impacts from Class II to Class III.	Impacts H-1 through H-7 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.				
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Preferred design option to crossing San Diego River	Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred (from South Bay Power Plant to Sweetwater River Transition Area)					
Land Use, Agriculture and Recreation	Impacts L-1, L-2, L-6, and L-7 were determined to be Class III and Impacts L-3, L-4, L-5 and L- 8 were determined to be Class II.	Impacts similar to Proposed Project, but would have a slightly longer construction time and impact area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance area.	Would conflict with applicable land use plans and policies relevant to the City of Chula Vista Bayfront resulting in a Class I impact to Impact L- 1.	Impacts associated with disruption of existing land use (Impact L-3) and recreational facilities (Impact L-5) would be slightly greater during construction due to additional activities and disturbance areas. However, long-term disruption would be reduced due to				
	Preferred from Sycamore Canyon to Fanita Junction and from South Bay Power		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to		removal of existing lattice towers between the Proctor Valley Substation and South Bay				

	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS									
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant				
	Plant to Old Town Substation.			underground circuit.transition.		Substation. Preferred from Miguel Substation to South Bay Power Plant.				
Noise and Vibration	Impacts N-3 and N-4 were determined to be Class III and Impacts N-1 and N-2 were determined to be Class II or Class III. Preferred	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Long-term noise impacts would be slightly greater due to corona noise from	Impacts similar to Proposed Project during operation and slightly greater during construction due to increased duration and disturbance area.				
Public Health and	Impacts PS-1 through PS-4	Impacts similar to	Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to underground circuit transition	overhead components. However, long-term noise impacts were determined to be Class III.	Impacts PS-1 through PS-4				
Safety	were determined to be Class II or Class III.	Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Proposed Project, but would be reduced due to reduced construction disturbance.	would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.				
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.					
Public Services and Utilities	Impacts U-1 through U-3 were determined to be Class II or Class III.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance.	Impacts U-1 through U-3 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.				
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River		Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to	Preferred from South Bay Power Plant to Sweetwater River					

TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS						
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant
	Transition Area to Old Town Substation.			underground circuit transition.	Transition Area.	
Population and Housing	Impacts S-1 and S-3 were determined to have no impact and Impact S-2 was determined to be Class III.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.
	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference
Transportation/Traffic	Impacts T-1 through T-9 were determined to be Class II or Class III. Preferred From Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option and Harbor Bridge.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred design option for Sicard Street overhead to underground circuit transition.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Impacts similar to Proposed Project but would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.
Visual Resources	See Table 4-1 for Class I impacts to Impact V-2. Impacts V-1, V-4 and V-4 were determined to be Class II or Class III.	Impacts would primarily be the same as Proposed Project.	Impacts would primarily be the same as Proposed Project.	Impacts would be slightly reduced due to the transition cable pole being less massive in size than the proposed transition station.	Impacts would be greater. The new and modified structures would increase the industrial character between the South Bay Power Plant and Sweetwater Marsh from Class III to Class II impacts.	The visual effects of the alternative would be substantially less than the Proposed Project. The degree of overall change between the Miguel Substation and South Bay Power Plant when compared to the Proposed Project would range from beneficial (Class IV) to slightly adverse (Class III).
	Preferred from Sycamore Canyon to Fanita Junction and from South Bay Power Plant to Old Town Substation.	No Preference	No Preference	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Preferred from Miguel Substation to South Bay Power Plant.

Power Plant Area to Sweetwater Overhead Design Alternative is inconsistent with the recent MOU between SDG&E and the City of Chula Vista to underground existing facilities along the Chula Vista Bayfront and therefore this conflict is considered to be significant and can only be mitigated to less than significant by undergrounding as proposed in Proposed Project.

E.3 Environmentally Superior Alternative

Alternatives fall into two categories: project design options and alternative transmission system. The following identifies the environmentally superior alternative for each of these categories.

E.3.1 SDG&E Design Option Alternatives

Pacific Highway Bridge Attachment

The Pacific Highway Bridge Attachment Design Alternative is the same as the OMPPA Transmission Project, except in the vicinity of where the Miguel – Old Town 230 kV underground line crosses the San Diego River. Under this alternative, the 230 kV line cable would be attached to the Pacific Highway Bridge rather than directional drilled under the San Diego River as proposed by the OMPPA Transmission Project.

The EIR analysis indicates that identified long-term significant impacts to environmental resources (Impact H-5, encroachment into a floodplain) resulting from the proposed construction and operation of the proposed 230 kV cable underneath the San Diego River can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be avoided if the project were implemented by attaching the proposed 230 kV cable on the Pacific Highway Bridge. While the Pacific Highway Bridge Attachment Alternative would require additional trenching in City of San Diego roadways within commercial and industrial areas, resulting impacts associated with construction would be short-term and easily mitigable to less than significant. Therefore, from a strictly environmental perspective, the Pacific Highway Bridge Design Alternative would rank as the environmentally superior design option to crossing the San Diego River as it would eliminate identified long-term hydrology related impacts while not resulting in more overall impacts than the Proposed Project.

Harbor Drive Bridge Attachment

The Harbor Drive Bridge Attachment Design is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. With the exception of the crossing of the Harbor Drive Bridge, this alternative is the same as the proposed OMPPA Transmission Project. The EIR analysis indicates that identified significant impacts to the 10th Avenue Marine Terminal, a busy entry port for cargo, due to disruption caused by the proposed construction/

boring of the proposed 230 kV cable under the Harbor Drive Bridge, can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be reduced if the project were implemented by attaching the proposed 230 kV cable on the Harbor Drive Bridge, while not resulting in more overall impacts than the Proposed Project. Therefore, from a strictly environmental perspective, the Harbor Drive Bridge Attachment Design Alternative would rank as the environmentally superior design option to boring underneath the Harbor Drive Bridge.

Sicard Street Transition Cable Pole

The Sicard Street Transition Cable Pole is an alternative to development of the Sicard Street Transition Station as proposed by the OMPPA Transmission Project. Aside from the design of the transition structures, this alternative would not alter any other aspects of SDG&E's proposed OMPPA Transmission Project.

The EIR analysis indicates that the identified impacts to parking and visual resources resulting from the proposed Sicard Street Transition station would be less than significant. The EIR also indicates that project-related impacts, although less than significant, would be reduced if the transition cable pole design alternative were implemented. Compared to the proposed transition structure design, the cable pole design is less industrial in scale and mass, and would take less space in the parking lot, thereby minimizing both visual impacts and land use impacts resulting from physical ground disturbances. Therefore, from a strictly environmental perspective, the Sicard Street Transition Cable Pole design alternative would rank as the environmentally superior design option to transition the proposed 230 kV line from overhead to underground at Sicard Street.

South Bay Power Plant Area to Sweetwater River Overhead Alternative

This alternative would be the same as the Proposed Project, except along the Chula Vista Bayfront, between the South Bay Power Plant Area and Sweetwater River Transition Area where this alternative would consist of placing the new 230 kV line overhead instead of underground as proposed by the OMPPA Transmission Project.

The EIR analysis indicates that identified significant impacts to biological resources, water quality, hazardous materials and geotechnical hazards due to proposed undergrounding between the South Bay Power Plant to the Sweetwater River Transition Area can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be reduced to these environmental resources if the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative were implemented. Impacts to these resource areas would be reduced because the proposed trenching and boring proposed by the

OMPPA Transmission Project would generally require more work to install the new 230 kV transmission line in comparison to the overhead alternative, which means that constructionrelated impacts would be more intense. However, the EIR analysis also indicates that while the undergrounding proposed by the OMPPA Transmission Project between the South Bay Power Plant Area and the Sweetwater River would be consistent with applicable land use plans and policies, the South Bay Power Plant Area to Sweetwater River Overhead Option would conflict with applicable land use plans and policies (Chula Vista Bayfront Specific Plan and Chula Vista Local Coastal Program Land Use Plan) and is inconsistent with the recent MOU between SDG&E and the City of Chula Vista to underground existing transmission facilities along the Chula Vista Bayfront. This conflict is considered to be significant and can only be mitigated to less than significant by undergrounding along the Chula Vista Bayfront as proposed in the OMPPA Transmission Project. While the South Bay Power Plant Area to Sweetwater River Overhead Alternative would reduce short-term construction related impacts associated with the Proposed Project, it would cause potential long-term conflicts with applicable land use plans and policies regarding the City of Chula Vista Bayfront. Therefore, from a strictly environmental perspective, the undergrounding proposed by the OMPPA Transmission Project (see Section B of this EIR, Segment 3 – South Bay Power Plant Area to Sweetwater River Transition Area) would rank as the environmentally superior design option to install the proposed 230 kV line from the South Bay Power Plant Area to the Sweetwater River Transition Area.

E.3.2 Transmission System Alternative

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Under this alternative, the OMPPA Transmission Project would be developed as proposed with the exception that between the Miguel Substation and the South Bay Power Plant Area, the Transmission System Alternative would be implemented as an alternative to Segment 2 (Miguel Substation to South Bay Power Plant Area) of the Proposed Project. Under this alternative, the 63 new double line transmission steel poles between Miguel and South Bay Power Plant Area as proposed in the OMPPA Transmission Project would be developed, but the transmission system would be reconfigured to allow the removal of the existing lattice towers between Proctor Valley and the South Bay Power Plant Area. Removal of the existing lattice towers would be made possible by this transmission system alternative, which would include removing one of the existing 138 kV transmission lines currently on the existing lattice towers and installing the other existing 138 kV line currently on the existing lattice towers on the second position of the new double line transmission poles that constitute the Miguel to South Bay portion of the proposed OMPPA Transmission Project. As further described in *Section C.4.3*, modifications to the Proctor Valley, Miguel and Los Coches substations, as well as addition of a second 138 kV

transmission line from the Miguel Substation to the Proctor Valley Substation, would be required.

The EIR analysis indicates that from the Miguel Substation to I-5, the Proposed Project would have long-term significant and unavoidable (Class I) visual impacts to views from a number of local residential neighborhoods, park and recreation areas, and public facilities. Long-term significant and unavoidable (Class I) visual impacts would result from the proposed OMPPA Transmission Project since the 230 kV line would be installed on single steel poles that would be viewed in conjunction with the existing 138 kV lattice towers. Taken together, the existing and proposed transmission structures would create a visually dominant industrial corridor through residential areas of Chula Vista. The differences in form and design between the existing lattice towers and proposed single steel pole structures would contribute to the visual disharmony and industrial character of the SDG&E ROW. The significant visual impacts from the OMPPA Transmission Project would occur primarily within a foreground viewing distance (within 0.5 mile) where the new structures and lines would be clearly visible in conjunction with the existing lattice structures.

Under the Transmission System Alternative, the significant visual impacts of the Proposed Project would be reduced to a level less than significant (Class III) from the Proctor Valley Substation to west of I-5, near proposed structure number 510. Under this scenario, the existing lattice tower structures and conductors would be removed from the Proctor Valley Substation to the South Bay Substation area, and replaced with the double-line 230 kV steel poles that would support one of the existing 138 kV lines and the proposed OMPPA 230 kV line. Long-term visual changes would be slightly adverse to beneficial along almost the entire length of SDG&E's ROW in the City of Chula Vista, east of I-5. The visual changes of the alternative would be evident from residential neighborhoods, local community parks and recreation areas, and public schools and institutions. This would result in the SDG&E ROW appearing substantially less industrial in character and form, and more similar in urban design to other community facilities, such as distribution poles and lighting facilities. Due to the beneficial visual effects of removing the existing 138 kV lattice towers, the visual impacts of the new 230 kV double line steel poles and conductors would be less than significant (Class III) when compared to the existing setting. While implementation of this alternative would reduce longterm visual impacts from Class I significant and unavoidable to Class III, less than significant, from the Proctor Valley Substation to the South Bay Power Plant, the removal of the existing lattice towers and placement of the existing 138 kV line would cause increased short-term impacts to biological resources, soil erosion, noise, solid waste disposal, traffic disruption and short-term disruption to recreational facilities due to more intense construction. While the EIR analysis indicates that short-term construction impacts generated by this alternative are significant, they can be mitigated to less than significant (Class II). Therefore, from a strictly environmental perspective, the Transmission System Alternative ranks as the environmentally

superior transmission system alternative between the Miguel Substation and South Bay Power Plant as it would reduce long-term visual impacts from significant and unavoidable (Class I) to less than significant (Class III), while only increasing temporary short-term impacts associated with construction that are easily mitigable to less than significant.

E.3.3 Summary of the Environmentally Superior Alternative

The Environmentally Superior Alternative as defined in *Section E.3.1 and E.3.2* is shown in *Figure E-1* and would be a combination of the Proposed Project, the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole Design Option Alternatives along with the Transmission System Alternative 7 PV1 Variation – Miguel to South Bay Power Plant.

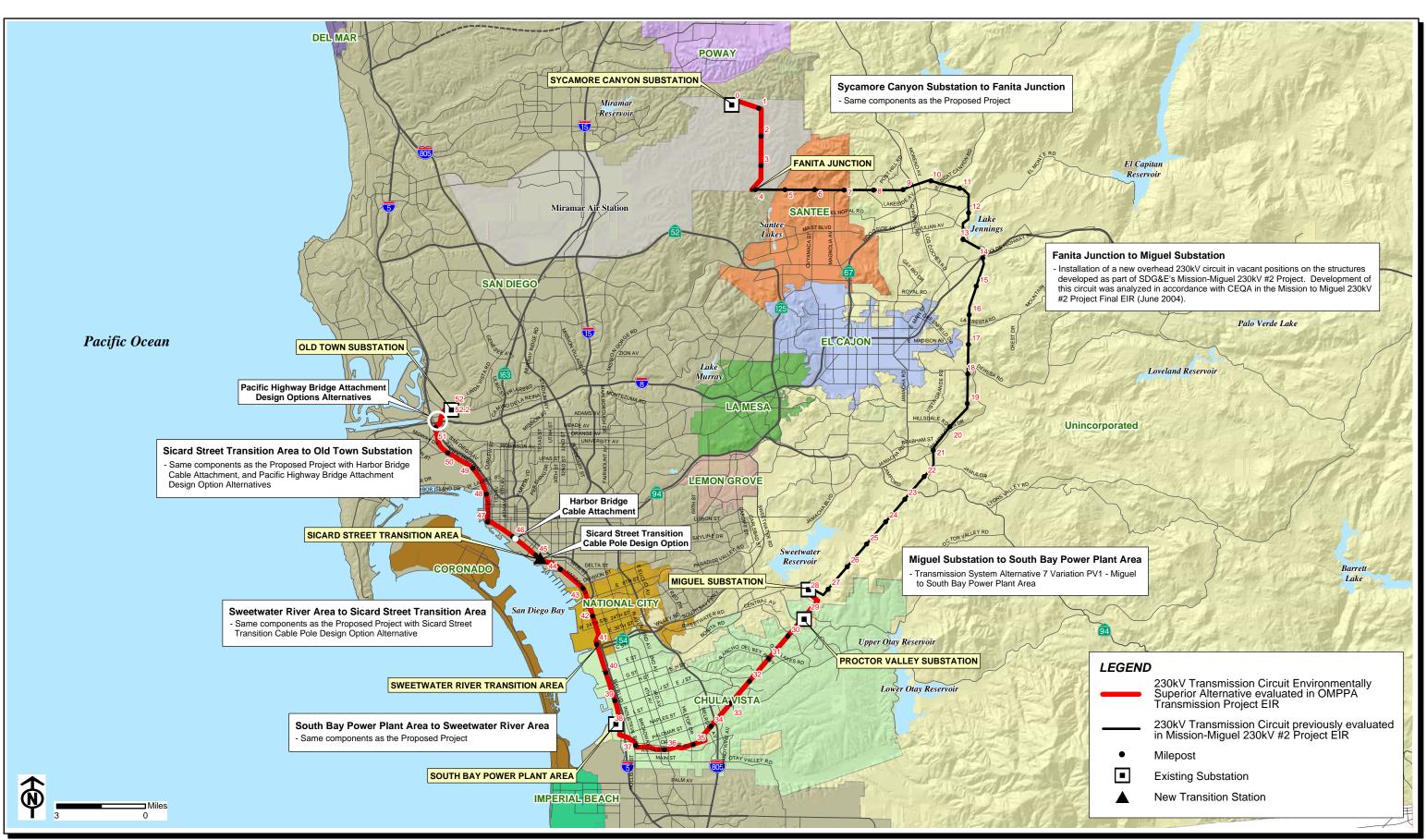
E.4 No Project Alternative vs. the Environmentally Superior Alternative

E.4.1 Summary of No Project Alternative and its Impacts

The No Project Alternative is described in *Section C.6.* Under the No Project Alternative, there is a possibility that, without the project, the OMGP would either be cancelled or delayed. There is also a possibility that new generation capacity and/or transmission capacity could be necessary in San Diego County or elsewhere to compensate for existing system limitations and anticipated loads. It would be speculative to predict the type and location or schedule of development for new power plants and transmission needed to overcome the transmission system constraints remaining under the No Project Alternative. However, for purposes of this analysis, the No Project Alternative could include either of the following components or combination of components:

- Construction of new transmission facilities at either 500 kV or 230 kV that would require the development of a new transmission corridor from either the east or north into the San Diego region.
- Construction of additional regional generation.
- System management and planning would continue to occur (management of load, reduction of demand, possible electric service curtailments).

The environmental impacts of the No Project Alternative would primarily result from operation of gas-fired turbine generators and/or development of new transmission. Long-term operational impacts from power generation include substantial air emissions and ongoing noise near the generators, as well as visual impacts of the generators depending on their locations. Construction and operation of new transmission facilities would primarily be the same as those



BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project EIR Environmentally Superior Alternative



identified for the Proposed Project with the exception of land use and visual resources which could be greater if developed within a new transmission corridor.

E.4.2 Summary of the Environmentally Superior Alternative and Its Impacts

The Environmentally Superior Alternative as defined in *Section E.3.3* would be a combination of the Proposed Project, the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole Design Option alternatives along with the Transmission System Alternative 7 PV1 Variation – Miguel to South Bay Power Plant. Project operation would have no operational air emissions and would have minimal effects on sensitive biological resources, land use, planned roadway improvements, and visual impacts. Short-term impacts would include construction disturbance (noise, dust, air emissions, land use disruption and traffic disruption, and public health and safety). Impacts of the Environmentally Superior Alternative are defined in each issue area's impact analysis for the SDG&E Proposed Project, the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole design option alternatives as well as the Transmission System 7 PV1 Variation – Miguel to South Bay Power Plant. The Environmentally Superior Alternative would have no significant and unmitigable (Class I) impacts. The following impacts would occur, but they would be mitigable to less than significant levels:

- Construction disturbances from dust, air emissions, hazardous materials, noise, traffic, soil erosion and public utilities.
- Disruption of recreational activities between the Miguel Substation and Sicard Street Transition Area.
- Temporary and permanent impacts to sensitive biological resources.
- Potential impacts due to geologic hazards.
- Potential impacts to unknown cultural resources.
- Increased potential for impacts to water quality during construction.

CONCLUSION: Comparison of Environmentally Superior Alternative with No Project Alternative

The Environmentally Superior Alternative would be located within the SDG&E ROW and underground within city streets with minimal long-term impacts on residences or other sensitive land uses. In comparison, long-term impacts to many environmental issue areas could occur under the No Project Alternative. Development of new power plants and/or new transmission facilities under the No Project Alternative would likely result in some level of long-term regional impacts to air quality, biological resources, water quality, noise, public health, and visual resources. Overall, the Environmentally Superior Alternative is preferred over the No Project Alternative.

D.13.6 References

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E. COMPARISON OF ALTERNATIVES

This section summarizes and compares the environmental advantages and disadvantages of the Proposed Project and the alternatives evaluated in this EIR. This comparison is based on the assessment of environmental impacts of the Proposed Project and each alternative, as identified in *Sections D.2 through D.13. Section C* introduces and describes the alternatives considered in this EIR; *Appendix 2* to this EIR includes the Alternatives Screening Report, which documents all alternatives considered in the screening process.

Section E.1 describes the methodology used for comparing alternatives. *Section E.2* defines the environmentally superior alternative, based on comparison of each alternative with the Proposed Project. *Section E.3* presents a comparison of the No Project Alternative with the alternative that is determined in *Section E.2* to be environmentally superior.

E.1 Comparison Methodology

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (*e.g.*, visual impacts and permanent loss of habitat or land use conflicts). Impacts associated with construction (*i.e.*, temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6[d]), Evaluation of Alternatives, which states that:

"The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the proposed project as proposed."

If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

The following methodology was used to compare alternatives in this EIR:

- Step 1: Identification of Alternatives. An alternatives screening process (described in *Section C* and *Appendix 2*) was used to identify over 30 alternatives to the Proposed Project. That screening process identified five alternatives for detailed EIR analysis. Four of the alternatives consist of SDG&E design options and one alternative consists of a transmission system alternative. A No Project Alternative was also identified. No other feasible alternatives meeting most of the basic project objectives were identified that would lessen or alleviate significant impacts.
- Step 2: Determination of Environmental Impacts. The environmental impacts of the Proposed Project and alternatives were identified in *Sections D.2 through D.13*, including the potential impacts of construction and operation.
- **Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the Proposed Project were compared to those of each alternative to determine the environmentally superior alternative. Because several alternatives involve only a portion of the proposed Project route, the environmentally superior option was determined for each relevant element of the Proposed Project. As a result, the environmentally superior alternative can be a combination of constituents of the Proposed Project with one or more alternatives. Once derived, the environmentally superior alternative was then compared to the No Project Alternative. Although this comparison focuses on the 12 issue areas (described in *Sections D.2* through *D.13*), determining an environmentally superior alternative is difficult because of the many factors that must be balanced. Although this EIR identifies an environmentally superior alternative, it is possible that the decision-makers (the five members of the CPUC) could balance the importance of each impact area differently and reach a different conclusion.

E.2 Evaluation of Project Alternatives

Five alternatives in addition to the No Project Alternative were identified for evaluation in this EIR. A detailed analysis of environmental impacts and mitigation for all project alternatives is provided in *Sections D.2 through D.13*. *Table E-1* provides a summary of significant unmitigable (Class I) impacts for the Proposed Project and alternatives. *Table E-2* provides a summary of environmental impact conclusions for the Proposed Project and each of the alternatives for each environmental issue area.

TABLE E-1

Proposed Project vs. Alternatives: Summary of Significant Unmitigable (Class I) Impacts

Issue Area	Significant Impacts (Class I)
Proposed Project	
Visual Resources	V-2 (long-term visual impacts)
	KOP 1 – Residential - Mount Miguel Road
	KOP 2 – Residential - Coltridge Lane
	KOP 3 – Bonita Long Canyon Park
	KOP 4 – Residential – Pepperwood Court
	KOP 5 – Residential – Via Hacienda
	KOP 7 – Bonita Vista Middle School
	KOP 8 – Discovery Park
	KOP 9 – Residential – Chestnut Court
	KOP 10 – Sunridge Park
	KOP 11 - Residential – Blackwood Road
	KOP 13 – Sunbow Park
	KOP 14 – Residential Area, Crescent Drive
	KOP 15 – Greg Rogers Par
	KOP 16 – Residential - Raven Avenue
	KOP 18 – Residential – Spruce Street
	KOP 19 – Reinstra Ball Fields
	KOP 20 – SDG&E Park
	KOP 21 – Residential - Jacama Way
	KOP 22 – Residential - 5-10 Mobile Home Ranch
	KOP 24 – Residential – Lynwood South
	KOP 25 – Residential – Trenton Street
Alternatives – Class I Impacts Eliminated or Created I	by Alternative
Transmission System 7 – Miguel to South Bay	Eliminates all Class I impacts to visual resources
South Bay Power Plant to Sweetwater River Overhead	Creates Class I impact to land use. Specifically Impact L-1 conflict with applicable land use plan, policy or regulation.

With the exception of visual impacts caused by the Proposed Project, there were no significant and unmitigable (Class I) impacts identified that could occur with the Proposed Project. As discussed in *Section D.13, Visual Resources,* significant and unmitigable (Class I) impacts were identified at various Key Observation Points (KOPs) between the Miguel Substation and South Bay Power Plant that would occur due to the Proposed Project. With the exception of the land use planning and policy conflicts due to the South Bay Power Plant Area to Sweetwater Overhead Design Alternative, there were no significant and unmitigable (Class I) impacts identified that could occur with the alternatives. As discussed in *Section D.7,* the South Bay

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	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS								
Issue Area	Image: Source								
Air Quality	Impacts A-1 through A-5 determined to be Class III. Preferred from Sycamore	Impacts similar to Proposed Project, but would have a slightly longer construction time and impact area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would have a longer construction duration.			
	Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.				
Biological Resources	Between Sycamore Canyon and Fanita Junction and Miguel Substation to Sweetwater River transition area, Impacts B-1 through B-8 were determined to be between Class II and Class III.	No impacts would occur.	No impacts would occur.	No impacts would occur.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance within and adjacent to the Sweetwater Marsh.	Impacts B-1, B-2 would be greater due to additional construction activities and larger disturbance area, but would remain between Class II and Class III impacts.			
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	No Preference	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.				
Cultural Resources	Impacts C-1 and C-3 were determined to be Class III and Impact C-2 was determined to be Class II.	Impacts similar to Proposed Project, but likelihood of encountering unknown resources would be slightly greater due to increased impact area of trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance and no trenching in bridge area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance area.	Impacts would be reduced due to reduced construct- ion disturbance from attaching to existing overhead bridge structures.	Impacts similar to Proposed Project, but likelihood of encountering unknown resources would be slightly greater due to increased impact area.			
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old	No Preference	No Preference	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.				

						RISON OF ALTERNATIVES	
	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS						
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant	
	Town Substation.						
Geology, Soils and Paleontology	Impacts G-1 through G-7 were determined to be Class II and Class III. Preferred from Sycamore Canyon to Fanita Junction,	Geologic impacts are nearly identical to those associated with the Proposed Project.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance and no trenching in bridge area.	The geologic impacts are identical to those associated with the Proposed Project.	Impacts would be reduced due to reduced construct- ion disturbance from attaching to existing overhead bridge structures.	Geologic impacts are nearly identical to those associated with the Proposed Project but would be slightly greater due to larger disturbance area.	
	Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	No Preference	Preferred design option at Harbor Bridge	No Preference	Preferred from South Bay Power Plant to Sweetwater River Transition Area.		
Hydrology and Water Quality	Impacts H-1, H-2, H-6 and H-7 determined to be Class III and Impacts H-3, H-4, and H-5 were determined to be Class II and Class III.	Would eliminate directional drill under San Diego River and therefore reduce H-3 and H-5 impacts from Class II to Class III.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Would reduce construction disturbance area as well as eliminate directional drill under the Sweetwater Marsh and therefore would reduce hydrology and water impacts from Class II to Class III.	Impacts H-1 through H-7 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.	
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Preferred design option to crossing San Diego River	Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred (from South Bay Power Plant to Sweetwater River Transition Area)		
Land Use, Agriculture and Recreation	Impacts L-1, L-2, L-6, and L-7 were determined to be Class III and Impacts L-3, L-4, L-5 and L- 8 were determined to be Class II.	Impacts similar to Proposed Project, but would have a slightly longer construction time and impact area.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance area.	Would conflict with applicable land use plans and policies relevant to the City of Chula Vista Bayfront resulting in a Class I impact to Impact L- 1.	Impacts associated with disruption of existing land use (Impact L-3) and recreational facilities (Impact L-5) would be slightly greater during construction due to additional activities and disturbance areas. However, long-term disruption would be reduced due to	
	Preferred from Sycamore Canyon to Fanita Junction and from South Bay Power		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to		removal of existing lattice towers between the Proctor Valley Substation and South Bay	

	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS						
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant	
	Plant to Old Town Substation.			underground circuit.transition.		Substation. Preferred from Miguel Substation to South Bay Power Plant.	
Noise and Vibration	Impacts N-3 and N-4 were determined to be Class III and Impacts N-1 and N-2 were determined to be Class II or Class III.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Long-term noise impacts would be slightly greater due to	Impacts similar to Proposed Project during operation and slightly greater during construction due to increased duration and disturbance area.	
Public Health and	Preferred	Impacts similar to	Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to underground circuit transition	corona noise from overhead components. However, long-term noise impacts were determined to be Class III.	Impacts PS-1 through PS-4	
Safety	Impacts PS-1 through PS-4 were determined to be Class II or Class III.	Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Proposed Project, but would be reduced due to reduced construction disturbance.	would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.	
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.		Preferred design option at Harbor Bridge.	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.		
Public Services and Utilities	Impacts U-1 through U-3 were determined to be Class II or Class III.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance.	Impacts U-1 through U-3 would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.	
	Preferred from Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River		Preferred design option at Harbor Bridge	Preferred design option for Sicard Street overhead to	Preferred from South Bay Power Plant to Sweetwater River		

	TABLE E-2 PROPOSED PROJECT VS. ALTERNATIVES SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS						
Issue Area	Proposed Project	Pacific Highway Bridge Attachment	Harbor Bridge Attachment	Sicard Street Transition Cable Pole	South Bay Power Plant to Sweetwater River Overhead	Transmission System 7 – Miguel to South Bay Power Plant	
	Transition Area to Old Town Substation.			underground circuit transition.	Transition Area.		
Population and Housing	Impacts S-1 and S-3 were determined to have no impact and Impact S-2 was determined to be Class III.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	Impacts would be the same as Proposed Project.	
	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	
Transportation/Traffic	Impacts T-1 through T-9 were determined to be Class II or Class III. Preferred From Sycamore Canyon to Fanita Junction, Miguel to South Bay and from the Sweetwater River Transition Area to Old Town Substation.	Impacts similar to Proposed Project, but would be slightly greater due to increased construction disturbance from trenching.	Impacts similar to Proposed Project, but would be slightly reduced due to reduced construction disturbance. Preferred design option and Harbor Bridge.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred design option for Sicard Street overhead to underground circuit transition.	Impacts similar to Proposed Project, but would be reduced due to reduced construction disturbance. Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Impacts similar to Proposed Project but would be greater due to additional construction activities and larger disturbance area, but would remain Class II and Class III impacts.	
Visual Resources	See Table 4-1 for Class I impacts to Impact V-2. Impacts V-1, V-4 and V-4 were determined to be Class II or Class III.	Impacts would primarily be the same as Proposed Project.	Impacts would primarily be the same as Proposed Project.	Impacts would be slightly reduced due to the transition cable pole being less massive in size than the proposed transition station.	Impacts would be greater. The new and modified structures would increase the industrial character between the South Bay Power Plant and Sweetwater Marsh from Class III to Class II impacts.	The visual effects of the alternative would be substantially less than the Proposed Project. The degree of overall change between the Miguel Substation and South Bay Power Plant when compared to the Proposed Project would range from beneficial (Class IV) to slightly adverse (Class III).	
	Preferred from Sycamore Canyon to Fanita Junction and from South Bay Power Plant to Old Town Substation.	No Preference	No Preference	Preferred design option for Sicard Street overhead to underground circuit transition.	Preferred from South Bay Power Plant to Sweetwater River Transition Area.	Preferred from Miguel Substation to South Bay Power Plant.	

Power Plant Area to Sweetwater Overhead Design Alternative is inconsistent with the recent MOU between SDG&E and the City of Chula Vista to underground existing facilities along the Chula Vista Bayfront and therefore this conflict is considered to be significant and can only be mitigated to less than significant by undergrounding as proposed in Proposed Project.

E.3 Environmentally Superior Alternative

Alternatives fall into two categories: project design options and alternative transmission system. The following identifies the environmentally superior alternative for each of these categories.

E.3.1 SDG&E Design Option Alternatives

Pacific Highway Bridge Attachment

The Pacific Highway Bridge Attachment Design Alternative is the same as the OMPPA Transmission Project, except in the vicinity of where the Miguel – Old Town 230 kV underground line crosses the San Diego River. Under this alternative, the 230 kV line cable would be attached to the Pacific Highway Bridge rather than directional drilled under the San Diego River as proposed by the OMPPA Transmission Project.

The EIR analysis indicates that identified long-term significant impacts to environmental resources (Impact H-5, encroachment into a floodplain) resulting from the proposed construction and operation of the proposed 230 kV cable underneath the San Diego River can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be avoided if the project were implemented by attaching the proposed 230 kV cable on the Pacific Highway Bridge. While the Pacific Highway Bridge Attachment Alternative would require additional trenching in City of San Diego roadways within commercial and industrial areas, resulting impacts associated with construction would be short-term and easily mitigable to less than significant. Therefore, from a strictly environmental perspective, the Pacific Highway Bridge Design Alternative would rank as the environmentally superior design option to crossing the San Diego River as it would eliminate identified long-term hydrology related impacts while not resulting in more overall impacts than the Proposed Project.

Harbor Drive Bridge Attachment

The Harbor Drive Bridge Attachment Design is an alternative to boring under the Harbor Drive Bridge as proposed by the OMPPA Transmission Project. With the exception of the crossing of the Harbor Drive Bridge, this alternative is the same as the proposed OMPPA Transmission Project. The EIR analysis indicates that identified significant impacts to the 10th Avenue Marine Terminal, a busy entry port for cargo, due to disruption caused by the proposed construction/

boring of the proposed 230 kV cable under the Harbor Drive Bridge, can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be reduced if the project were implemented by attaching the proposed 230 kV cable on the Harbor Drive Bridge, while not resulting in more overall impacts than the Proposed Project. Therefore, from a strictly environmental perspective, the Harbor Drive Bridge Attachment Design Alternative would rank as the environmentally superior design option to boring underneath the Harbor Drive Bridge.

Sicard Street Transition Cable Pole

The Sicard Street Transition Cable Pole is an alternative to development of the Sicard Street Transition Station as proposed by the OMPPA Transmission Project. Aside from the design of the transition structures, this alternative would not alter any other aspects of SDG&E's proposed OMPPA Transmission Project.

The EIR analysis indicates that the identified impacts to parking and visual resources resulting from the proposed Sicard Street Transition station would be less than significant. The EIR also indicates that project-related impacts, although less than significant, would be reduced if the transition cable pole design alternative were implemented. Compared to the proposed transition structure design, the cable pole design is less industrial in scale and mass, and would take less space in the parking lot, thereby minimizing both visual impacts and land use impacts resulting from physical ground disturbances. Therefore, from a strictly environmental perspective, the Sicard Street Transition Cable Pole design alternative would rank as the environmentally superior design option to transition the proposed 230 kV line from overhead to underground at Sicard Street.

South Bay Power Plant Area to Sweetwater River Overhead Alternative

This alternative would be the same as the Proposed Project, except along the Chula Vista Bayfront, between the South Bay Power Plant Area and Sweetwater River Transition Area where this alternative would consist of placing the new 230 kV line overhead instead of underground as proposed by the OMPPA Transmission Project.

The EIR analysis indicates that identified significant impacts to biological resources, water quality, hazardous materials and geotechnical hazards due to proposed undergrounding between the South Bay Power Plant to the Sweetwater River Transition Area can be mitigated to less than significant. The EIR also indicates that project-related impacts, although mitigated to less than significant, would be reduced to these environmental resources if the South Bay Power Plant Area to Sweetwater River Overhead Design Alternative were implemented. Impacts to these resource areas would be reduced because the proposed trenching and boring proposed by the

OMPPA Transmission Project would generally require more work to install the new 230 kV transmission line in comparison to the overhead alternative, which means that constructionrelated impacts would be more intense. However, the EIR analysis also indicates that while the undergrounding proposed by the OMPPA Transmission Project between the South Bay Power Plant Area and the Sweetwater River would be consistent with applicable land use plans and policies, the South Bay Power Plant Area to Sweetwater River Overhead Option would conflict with applicable land use plans and policies (Chula Vista Bayfront Specific Plan and Chula Vista Local Coastal Program Land Use Plan) and is inconsistent with the recent MOU between SDG&E and the City of Chula Vista to underground existing transmission facilities along the Chula Vista Bayfront. This conflict is considered to be significant and can only be mitigated to less than significant by undergrounding along the Chula Vista Bayfront as proposed in the OMPPA Transmission Project. While the South Bay Power Plant Area to Sweetwater River Overhead Alternative would reduce short-term construction related impacts associated with the Proposed Project, it would cause potential long-term conflicts with applicable land use plans and policies regarding the City of Chula Vista Bayfront. Therefore, from a strictly environmental perspective, the undergrounding proposed by the OMPPA Transmission Project (see Section B of this EIR, Segment 3 – South Bay Power Plant Area to Sweetwater River Transition Area) would rank as the environmentally superior design option to install the proposed 230 kV line from the South Bay Power Plant Area to the Sweetwater River Transition Area.

E.3.2 Transmission System Alternative

<u>Transmission System Alternative 7 PV1 Variation – Miguel Substation to South Bay</u> <u>Power Plant</u>

Under this alternative, the OMPPA Transmission Project would be developed as proposed with the exception that between the Miguel Substation and the South Bay Power Plant Area, the Transmission System Alternative would be implemented as an alternative to Segment 2 (Miguel Substation to South Bay Power Plant Area) of the Proposed Project. Under this alternative, the 63 new double line transmission steel poles between Miguel and South Bay Power Plant Area as proposed in the OMPPA Transmission Project would be developed, but the transmission system would be reconfigured to allow the removal of the existing lattice towers between Proctor Valley and the South Bay Power Plant Area. Removal of the existing lattice towers would be made possible by this transmission system alternative, which would include removing one of the existing 138 kV transmission lines currently on the existing lattice towers and installing the other existing 138 kV line currently on the existing lattice towers on the second position of the new double line transmission poles that constitute the Miguel to South Bay portion of the proposed OMPPA Transmission Project. As further described in *Section C.4.3*, modifications to the Proctor Valley, Miguel and Los Coches substations, as well as addition of a second 138 kV

transmission line from the Miguel Substation to the Proctor Valley Substation, would be required.

The EIR analysis indicates that from the Miguel Substation to I-5, the Proposed Project would have long-term significant and unavoidable (Class I) visual impacts to views from a number of local residential neighborhoods, park and recreation areas, and public facilities. Long-term significant and unavoidable (Class I) visual impacts would result from the proposed OMPPA Transmission Project since the 230 kV line would be installed on single steel poles that would be viewed in conjunction with the existing 138 kV lattice towers. Taken together, the existing and proposed transmission structures would create a visually dominant industrial corridor through residential areas of Chula Vista. The differences in form and design between the existing lattice towers and proposed single steel pole structures would contribute to the visual disharmony and industrial character of the SDG&E ROW. The significant visual impacts from the OMPPA Transmission Project would occur primarily within a foreground viewing distance (within 0.5 mile) where the new structures and lines would be clearly visible in conjunction with the existing lattice structures.

Under the Transmission System Alternative, the significant visual impacts of the Proposed Project would be reduced to a level less than significant (Class III) from the Proctor Valley Substation to west of I-5, near proposed structure number 510. Under this scenario, the existing lattice tower structures and conductors would be removed from the Proctor Valley Substation to the South Bay Substation area, and replaced with the double-line 230 kV steel poles that would support one of the existing 138 kV lines and the proposed OMPPA 230 kV line. Long-term visual changes would be slightly adverse to beneficial along almost the entire length of SDG&E's ROW in the City of Chula Vista, east of I-5. The visual changes of the alternative would be evident from residential neighborhoods, local community parks and recreation areas, and public schools and institutions. This would result in the SDG&E ROW appearing substantially less industrial in character and form, and more similar in urban design to other community facilities, such as distribution poles and lighting facilities. Due to the beneficial visual effects of removing the existing 138 kV lattice towers, the visual impacts of the new 230 kV double line steel poles and conductors would be less than significant (Class III) when compared to the existing setting. While implementation of this alternative would reduce longterm visual impacts from Class I significant and unavoidable to Class III, less than significant, from the Proctor Valley Substation to the South Bay Power Plant, the removal of the existing lattice towers and placement of the existing 138 kV line would cause increased short-term impacts to biological resources, soil erosion, noise, solid waste disposal, traffic disruption and short-term disruption to recreational facilities due to more intense construction. While the EIR analysis indicates that short-term construction impacts generated by this alternative are significant, they can be mitigated to less than significant (Class II). Therefore, from a strictly environmental perspective, the Transmission System Alternative ranks as the environmentally

superior transmission system alternative between the Miguel Substation and South Bay Power Plant as it would reduce long-term visual impacts from significant and unavoidable (Class I) to less than significant (Class III), while only increasing temporary short-term impacts associated with construction that are easily mitigable to less than significant.

E.3.3 Summary of the Environmentally Superior Alternative

The Environmentally Superior Alternative as defined in *Section E.3.1 and E.3.2* is shown in *Figure E-1* and would be a combination of the Proposed Project, the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole Design Option Alternatives along with the Transmission System Alternative 7 PV1 Variation – Miguel to South Bay Power Plant.

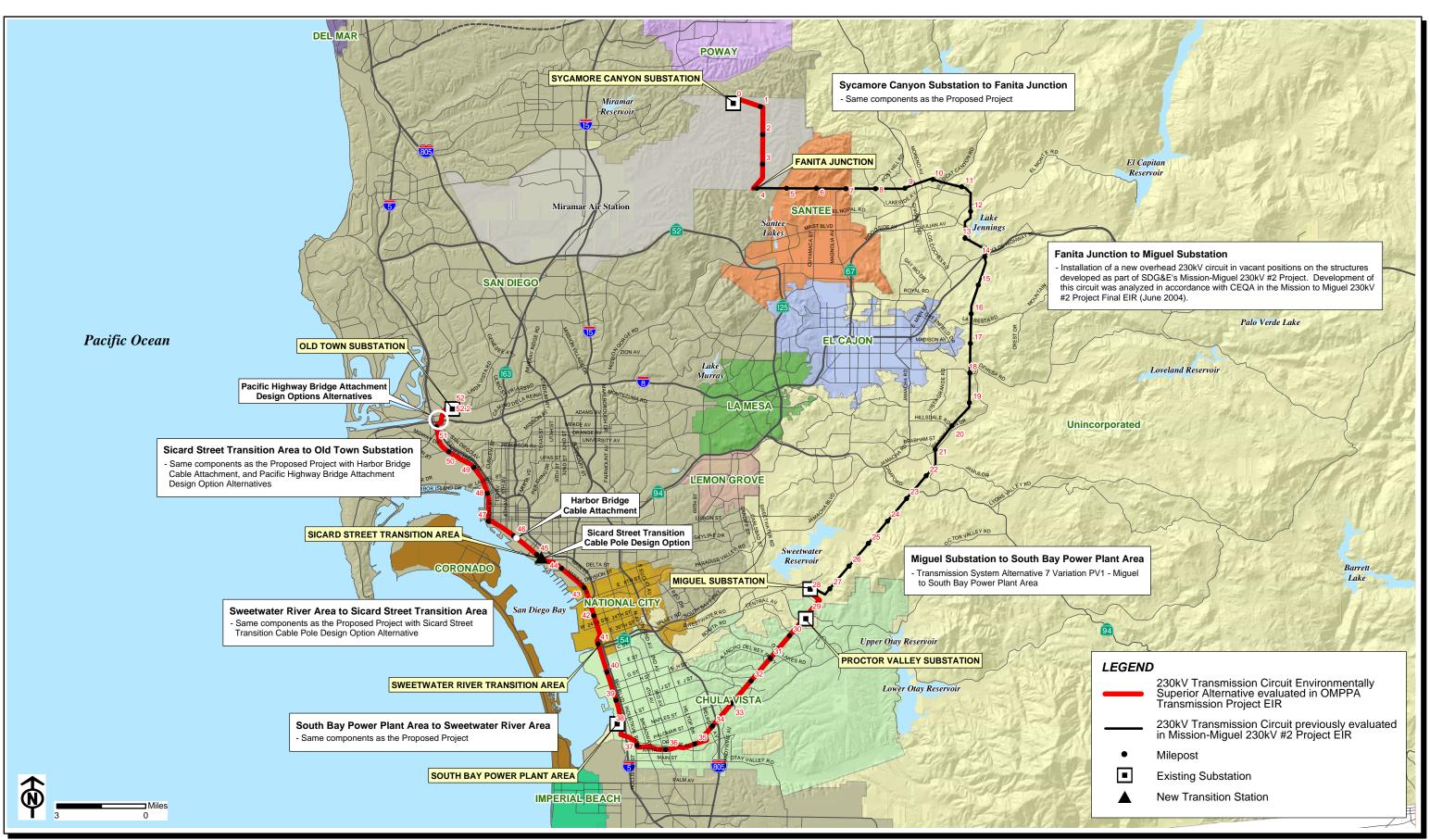
E.4 No Project Alternative vs. the Environmentally Superior Alternative

E.4.1 Summary of No Project Alternative and its Impacts

The No Project Alternative is described in *Section C.6.* Under the No Project Alternative, there is a possibility that, without the project, the OMGP would either be cancelled or delayed. There is also a possibility that new generation capacity and/or transmission capacity could be necessary in San Diego County or elsewhere to compensate for existing system limitations and anticipated loads. It would be speculative to predict the type and location or schedule of development for new power plants and transmission needed to overcome the transmission system constraints remaining under the No Project Alternative. However, for purposes of this analysis, the No Project Alternative could include either of the following components or combination of components:

- Construction of new transmission facilities at either 500 kV or 230 kV that would require the development of a new transmission corridor from either the east or north into the San Diego region.
- Construction of additional regional generation.
- System management and planning would continue to occur (management of load, reduction of demand, possible electric service curtailments).

The environmental impacts of the No Project Alternative would primarily result from operation of gas-fired turbine generators and/or development of new transmission. Long-term operational impacts from power generation include substantial air emissions and ongoing noise near the generators, as well as visual impacts of the generators depending on their locations. Construction and operation of new transmission facilities would primarily be the same as those



BASE MAP SOURCE: San Diego Association of Governments (SANDAG)

OMPPA Transmission Project EIR Environmentally Superior Alternative



identified for the Proposed Project with the exception of land use and visual resources which could be greater if developed within a new transmission corridor.

E.4.2 Summary of the Environmentally Superior Alternative and Its Impacts

The Environmentally Superior Alternative as defined in *Section E.3.3* would be a combination of the Proposed Project, the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole Design Option alternatives along with the Transmission System Alternative 7 PV1 Variation – Miguel to South Bay Power Plant. Project operation would have no operational air emissions and would have minimal effects on sensitive biological resources, land use, planned roadway improvements, and visual impacts. Short-term impacts would include construction disturbance (noise, dust, air emissions, land use disruption and traffic disruption, and public health and safety). Impacts of the Environmentally Superior Alternative are defined in each issue area's impact analysis for the SDG&E Proposed Project, the Pacific Highway Bridge Attachment, Harbor Drive Bridge Attachment, and Sicard Street Cable Pole design option alternatives as well as the Transmission System 7 PV1 Variation – Miguel to South Bay Power Plant. The Environmentally Superior Alternative would have no significant and unmitigable (Class I) impacts. The following impacts would occur, but they would be mitigable to less than significant levels:

- Construction disturbances from dust, air emissions, hazardous materials, noise, traffic, soil erosion and public utilities.
- Disruption of recreational activities between the Miguel Substation and Sicard Street Transition Area.
- Temporary and permanent impacts to sensitive biological resources.
- Potential impacts due to geologic hazards.
- Potential impacts to unknown cultural resources.
- Increased potential for impacts to water quality during construction.

CONCLUSION: Comparison of Environmentally Superior Alternative with No Project Alternative

The Environmentally Superior Alternative would be located within the SDG&E ROW and underground within city streets with minimal long-term impacts on residences or other sensitive land uses. In comparison, long-term impacts to many environmental issue areas could occur under the No Project Alternative. Development of new power plants and/or new transmission facilities under the No Project Alternative would likely result in some level of long-term regional impacts to air quality, biological resources, water quality, noise, public health, and visual resources. Overall, the Environmentally Superior Alternative is preferred over the No Project Alternative.

F. OTHER CEQA CONSIDERATONS

F.1 Growth-Inducing Effects

CEQA requires a discussion of the ways in which a Proposed Project could be an inducement to growth. The CEQA Guidelines [Section 15126.2d)] identify 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 environment. New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. Other examples of projects that are growth-inducing are the expansion of urban services into a previously unserved or underserved area, the creation or extension of transportation links, or the removal of major obstacles to growth. It is important to note that these direct forms of growth have secondary effects of expanding the size of local markets and attracting additional economic activity to the area.

Typically, the growth-inducing potential of a project would be considered significant if it stimulates human population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

F.1.1 Growth Caused by Direct and Indirect Employment

As described in *Section D.11, Population and Housing,* the construction and operation of the project itself would not affect the employment patterns in the area. SDG&E would employ approximately 50 workers throughout the 24-month construction period. It is anticipated that the majority of workers would come from the San Diego area. Outside contractors may also be used who would commute from outside of the County and stay at existing local hotels during construction. There is an adequate supply of hotels and inns in the project area that could be utilized by the out-of-town personnel.

Project operation and maintenance would be accomplished by current SDG&E employees and would therefore not create new jobs. Because the project would not result in an increase in employment during operation and maintenance, the project would not increase demand for new housing.

F.1.2 Growth Related to Provision of Additional Electric Power

San Diego County's population and employment base have grown and are expected to continue to grow at moderate rates. Between 1990 and 2000, the County's population grew by approximately 11 percent (322,000 people) thus reaching in excess of 2.8 million people (U.S. Census, 2000). At the same time, regional civilian employment grew from 1.15 million to approximately 1.24 million, matching the increase in population growth. The County's population is projected to grow to 3.8 million by 2030, an additional increase of approximately 10.6 percent. The energy demand projected by SDG&E and the CAL-ISO is expected to increase as a direct function of the anticipated growth in human population, as well as related housing and employment markets. As the primary electricity service provider for San Diego County, SDG&E is required to accommodate existing electricity demand as well as anticipated future demand.

Consistent with SDG&E's role of both planning and procuring electricity for its customers, SDG&E requested CPUC approval to sign a ten-year Power Purchase Agreement (PPA) for 570 MW of power from Calpine Corporation's OMGP. The justification for the Otay Mesa PPA (OMPPA) and alternatives to the OMPPA were addressed in CPUC proceeding R.01-10-024. In June 2004, the CPUC approved in Decision D.04-06-011 SDG&E's request, and subsequently, in order to achieve the benefits documented in its generation procurement proceeding, SDG&E has entered into a ten-year PPA with Calpine Corporation to purchase 570 MW of power from Calpine's approved OMGP.

The OMGP was approved by the California Energy Commission in April 2001 in Docket No. 99-AFC-5. In the CEC's Decision under *Item 11, Need Conformance*, the CEC stated:

"In light of the current energy crisis in California, there is no question that additional capacity in San Diego is necessary. The more relevant inquiry is whether the project's 510 MW will be delivered to the SDG&E service area and/or California after the project commences commercial operation."

As discussed in *Section A.2, Project Purpose and Need*, of this EIR, transmission constraints on SDG&E's transmission system prevent the OMGP from reliable delivery of its full output to SDG&E load centers as contemplated under the OMPPA. The proposed OMPPA Transmission Project provides the transmission infrastructure needed to assure the reliable delivery of the full output from the approved OMGP to SDG&E's major load centers consistent with CPUC Decision D.04-06-011 and with CEC Decision on the OMGP (Docket No. 99-AFC-5).

The Project would not directly induce growth-related to provision of additional electric power in a predictable manner or defined location. The Project would merely assure efficient delivery of energy from the approved OMGP, and might potentially reduce the demand on other previously available energy supplies. No direct growth constraint would be removed, nor would a direct stimulus to growth be added. On the other hand, with any gain in efficiency in the use of a resource or commodity, there is a resultant reduced demand on the resource or commodity that will potentially make the resource available for other users. SDG&E's use of the OMPPA Transmission Project may displace a corresponding demand on SDG&E's transmission system. Concern has been raised that the transmission capacity not used by the OMGP as a result of the Proposed Project could be used to increase the region's capability of importing power. However, a significant transmission bottleneck currently exists at SDG&E's Miguel Substation and is expected with or without the OMPPA Transmission Project. Therefore, any resultant increase in transmission capacity to import power due to the Proposed Project would not be substantial and most likely not be the sole, or even a substantial, contributory factor to growth in the region.

F.2 Significant Irreversible Changes

CEQA Guidelines (Section 15126.2[c]) require that an EIR identify significant irreversible environmental changes that would be caused by the Proposed Project. These changes may include, for example, uses of nonrenewable resources, or provision of access to previously inaccessible areas, as well as project accidents that could change the environment in the long-term.

Development of the OMPPA Transmission Project would require a permanent commitment of natural resources resulting from the direct consumption of fossil fuels, construction materials, the manufacture of new equipment that largely cannot be recycled at the end of the project's useful lifetime, and energy required for the production of materials. Furthermore, construction of the overhead transmission line would necessitate a small amount (2.4 acres) of permanent sensitive vegetation and habitat loss, as evaluated in *Section D.3, Biological Resources*. Assuming implementation of the mitigation measures recommended in this EIR, permanent loss of biological resources would be less than significant and confined to small areas along and adjacent to the project ROW.

During the project's operational phase, the transmission line would allow for the efficient transport of additional electrical power generated from nonrenewable resources (e.g., natural gas used in the approved OMGP). The Proposed Project would not require the future use of specific amounts of nonrenewable resources.

The construction of the overhead transmission line lines would permanently alter the existing visual setting of the project area over the project's lifetime, particularly between the Miguel

Substation and the South Bay Power Plant. The addition of 63 new steel tubular steel poles to the existing SDG&E ROW, which currently contains two 138 kV lines on existing lattice structures, would create a permanent visual impact visible from area roadways, residences and recreation facilities.

F.3 Cumulative Scenario

As required by CEQA (Section 15130 et seq. of the CEQA Guidelines), the proposed OMPPA Transmission Project is analyzed in relation to other projects in the area having impacts that are considered to overlap or interact in a cumulative manner with those of the OMPPA Transmission Project. It is important to consider the combined effects of all past, present, and reasonably foreseeable future projects to determine the cumulative effect of these projects on the region because, even though a single project may have individually minor impacts, when considered together with other projects, the effects maybe collectively significant. A cumulative impact, then, is the additive effect of all projects in the same geographic area. The project itself would have a significant cumulative impact if the project's contribution to the overall significant cumulative effect is of a cumulatively considerable magnitude.

For purposes of this cumulative impact analysis, a list of projects in the same immediate vicinity and expected to be constructed during the same time period as the OMPPA Transmission Project has been used in accordance with CEQA (Section 15130[b][1]). These projects and their approximate geographic location are shown in *Table F-1*. Projects that are completed, or in operation are considered part of current baseline conditions discussed by issue area in *Section D*. Analysis of cumulative impacts that may result due to these projects and evaluation of the project's contribution to such impacts, is presented in *Section F.4*.

The projects in the cumulative scenario include a range of project types from small, singlefamily housing developments and road improvements to large commercial developments, highway improvements and SDG&E utility projects. Proposed and pending projects are presented that would be within the project area of the proposed transmission line route, which also includes alternatives considered in this EIR. The list of projects provided in *Table F-1* includes projects for which applications have been submitted as well as projects that may foreseeably have impacts that would cumulate with those of the proposed Project and are included in general plans or other planning documents. Information provided in *Table F-1* was gathered from an internet search of local planning agencies, personal communication with Planning staff of the City of San Diego, Center City Development Corporation, Unified Port of San Diego, and City of National City, and review of the following various planning documents: general plans and community plans of the affected jurisdictions; planning document such as the North Embarcadero Visionary Plan, Chula Vista Bayfront Master Plan, redevelopment plans for the Bayfront and Southwest areas of Chula Vista; other environmental impact reports prepared

TABLE F-1
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

				Permitting Status/
Project	Project Type	Project Description/ Size	Project Location	Schedule
Sycamore Canyon Substation to Fanita Junct				•
Miramar Military Family Housing	Residential development	Construct approximately 1,000 residential units	U.S. Marine Corps Air Station, Miramar	Construction expected in 2005
Fanita Junction to Miguel Substation			·	
Miguel to Mission 230 kilovolt (kV) #2 Project	Utility Transmission Line	Construction of a new 230 kV transmission line; relocation of existing 69kV and 138 kV lines; modifications to stations	Miguel Substation north and west to Mission Substation	Currently under construction, expected to be completed June 2006
Santee Lakes Recreation Park Capital Improvement Program	Recreational development	Build campgrounds and visitor center	9040 Carlton Oaks Drive	Expected to be completed 2005
Cresta- Dehesa Subdivision	Residential development	Construction of 8 lots	La Crest Road, east of Coyote Ridge	Construction expected in 2005
Fanita Parkway Crossing (San Diego River Habitat Conservation Plan)	Street Improvements	Improvements	Fanita Pkwy	Unknown
State Route 67 (San Diego River Habitat Conservation Plan)	Highway Improvements	Conventional highway widening	SR-67 from Lakeside to Ramona	Unknown
Otay Mesa Generation Project	Power Plant	570 MW Power Plant	Near SDG&E's Miguel Substation	Under construction
Miguel Substation to South Bay Power Plant	Area			
State Route 125 South Project	Roadway improvements	Construction of a 6-8 lane toll road	State Route 905 near the U.S./Mexican border to State Route 54	Expected to be completed 2006
Otay Mesa Miguel 230 kV Upgrade	Capital development	Bundling of existing 230 kV line	Miguel Substation south to Otay Mesa area	Unknown
Sunbow Park	Recreational development	Development of soccer field, 2 basketball courts, community center, lawns, playground	Naples Street/ Sundown Lane	Expected to be completed 2005
Interstate 805 Interchange	Roadway improvements	Revise interchange	I- 805, Otay Valley Road under crossing to south of Palomar Street	Expected to be completed 2005
Third Avenue	Roadway improvements	Improvements	Orange Avenue to Main Street	Construction expected in 2007

TABLE F-1
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

P · · ·				Permitting Status/
Project South Bay Power Plant Area to Sicard Street	Project Type	Project Description/ Size	Project Location	Schedule
South Bay Power Plant Area to Sicard Street	Transition Area			
Marina Gateway Place	Residential and commercial development	Construction of retail, residential, and office	West of Interstate 5 at Bay Marina Drive	Expected to be completed March 2006
Chula Vista Bayfront Master Plan				
Silvergate/Main Street Substation Project	ot			
Silvergate/Main Street Project	Utility Transmission Station	Relocate substation to industrial area	Main Street Substation and proposed Silvergate Substation, City of San Diego	Application expected to be filed with the CPUC March 31, 2005.
South Bay Substation Upgrades	Utility Transmission Station	Upgrades to existing substation	West of I-5 along Chula Vista Bayfront	Application expected to be filed with the CPUC March 31, 2005.
138 kV lattice steel bridge structure removal	Utility Transmission Line	Underground existing 138 kV line Tie Line from Tower 189507 to 188701 and remove two existing 138 kV lines and associated cables, splices, conduit, vaults and hardware and removal of bridge structures from Tower 189507 to 281763	Chula Vista Bayfront Redevelopment Area from Tower 188701 north to 189507	Application expected to be filed with the CPUC March 31, 2005
Undergrounding existing 69 kV lines	Utility Transmission Line	Underground 69 kV lines located on wooden poles	Chula Vista Bayfront	Unknown.
Midbayfront Development	Residential, Commercial, and office development	650 hotel rooms, 1000 dwelling units, 170,000 sq ft of entertainment/ retail, 450,000 sq ft office, and park and open space use	Chula Vista Bayfront	Expected to be completed 2005
Extension of E Street and Realignment of Marina Pkwy	Street Improvements	Extend H Street as freeway access and complete the realignment of Marina Pkwy to E Street	H Street and Marina Pkwy	Unknown.
Abandonment of Coronado Branch Rail	Closure	Closure of unused rail line	Bisects bayfront	Unknown.
Southwest Redevelopment Project Area				
Main Street Pavement Rehabilitation	Street Improvements	Unknown.	Broadway to I-805	Unknown.

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule
Sicard Street Transition Area to Old Town St				ochedule
East Village Square	Retail, residential, office development	Mixed-use urban development includes over 655,000sf of street level retail, office and residential	3 blocks along J Street between Seventh and Tenth	Expected to be completed June 2007
San Diego Public Library New Main Library	Capital development	New building, 500 parking spaces, auditorium	11th and 12th avenues and J and K Streets	Expected to be completed April 2007
Fifth Avenue Landing Hotel	Commercial development	250-room hotel with meeting rooms, ballroom, restaurants, retail shops, other ancillary uses, pedestrian access, with bridge to Convention Center, parking garage, and landscape improvements	West of the Convention Center, near Embarcadero Marina Park South	Expected to be completed late 2007
Diamond View Tower at the Ballpark	Commercial and office development	14-story office tower offer 250,000sf of office space and 75,000sf of retail and restaurant space	Adjacent to Petco Park at the southeast corner of 10th Avenue and J St	Expected to be completed fall 2006
San Diego Children's Museum/Museo de los Niños	Public facilities	13,000 sq ft of galleries, a public lobby, retail store, a café with exterior decks, activity areas, a 2,500 sq ft multipurpose performance space and a Charter School for grades 3-6	North side of Island Avenue between Front and Union streets	Expected to be completed November 2005
Children's Museum Park	Public facility	Triangular, one-acre park in front of museum	Along the Dr. Martin Luther King Jr. Promenade west of Front Street	Unknown.
KUSI Mixed Use	Commercial, residential, office development	198 apartments, office/television studio space, restaurants, retail, and parking	Bounded by 1st, 2nd, Island Avenues and J Street	Expected to be completed December 2007
The Pinnacle Museum Tower	Commercial and residential development	35-story, 182-unit luxury condominium development that includes three levels of parking and 10,000 sq ft of retail space	Bounded by Island Avenue and Market, Front, and Union streets	Expected to be completed August 2005
Marriot Renaissance Hotel	Commercial development	12-story, 344-room hotel, retail space	North side J Street between 5th and 6th	Expected to be completed December 2006
Gaslamp City Square	Residential and Commercial development	7-story retail, condominiums and apartments, parking	Bounded by J Street, Island, 4th Avenue and 5th Avenue	Expected to be completed November 2005

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule
Bosa Pacific Highway At Ash	Residential development	36-story (397 ft.), 241-unit condominium tower	southeast corner of Pacific Highway and Ash Streets	Expected to be completed Winter 2007
Museum of Contemporary Art, Sante Fe Depot	Art exhibition facility	Rehabilitate 13,680 sq ft Baggage Building by adding new 3-story addition and ground level space for Amtrak	Sante Fe Depot	Expected to be completed February 2005
The Grande At Santa Fe Place	Residential development	Two 39-story (420 ft.) condominium towers	The east side of Pacific Highway between B and C streets	Expected to be completed October 2005
Santa Fe Parcel 6	Commercial, residential, office development	32-story (380 ft.) mixed-use project containing 114 condominiums and 12,000sq ft of office space and 3 sq ft of retail space	Southwest corner of Kettner and A streets	Expected to be completed March 2007
YMCA	Residential rehabilitation	rehabilitation of 261 single-room- occupancy (SRO) units inside the historic Armed Services YMCA building	500 West Broadway	renovation- August 2005
Bosa Pacific Highway At E	Residential development	Dual-tower, 271-unit condominium project	East side of Pacific Highway between E and F streets	Expected to be completed Summer 2009
Electra (formerly Bosa Station B)	Residential development	43-story (480 ft.) residential tower with 248 condominiums; rehabilitating the existing historic SDG&E Station B power plant building	Kettner Boulevard and Broadway	Expected to be completed January 2007
Cedar and Front Streets	Residential development	20-unit condominium complex	North side Cedar Street, Front, Union streets	Expected to be completed 2005
Broadway 655	Commercial, residential, office development	23-story (412 ft.), 454,000 sq ft office tower including retail space, apartments and 765 parking spaces	Southeast corner of Broadway and Kettner Boulevard	Expected to be completed June 2006
One Santa Fe Place	Commercial development	27-stories of office and retail space	Northeast corner of Broadway and PCH	unknown
Allegro Tower	Commercial and residential development	Five- to 28-story (285ft.), 211-unit apartment building including retail and parking spaces	East side of Kettner Boulevard between Ash and Beech streets	Expected to be completed June 2005
Daniels Little Italy	Commercial and residential development	56-unit condominium project with 8,000 sq ft of retail space	Southwest corner of India and Fir streets	Expected to be completed December 2006
Columbia Street Lofts	Residential development	five-story (50 ft.) condominium project	1836 Columbia Street between Date and Fir streets	Expected to be completed December 2005

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule
Mission Valley East Light Rail Transit	Capital development	Create new line and 4 new stations	Old Town Transit Center to Santee Town Center	Expected to be completed 2005
Caltrans San Diego and Imperial Valley District Office	Office development	Construct new building and parking	Gaines Street and Taylor Street, Sunset Street and Burlington Northern Sante Fe Railroad Tracts	Expected to be Completed June 2006
69/12kV Old Town Substation Modification	Capital development	Modify line breakers and bus work to a high ampacity	Old Town Substation (Linda Vista)	Expected to be Completed June 2006
San Diego Convention Hotel	Commercial development	1000-1200 room hotel tower, lobby, ballroom, meeting rooms, retail shops, restaurants, other ancillary uses, above-grade parking structure, marina, piers, pedestrian access, boat access, park/plaza, and landscape improvements	South of 8th Avenue and Park Boulevard and Convention Way	Tentative opening date summer 2007
Convention Center Phase II	Commercial development	Construct regional center; infrastructure; Parking Management Plan and Monitoring Program; public access program, construct public plaza	South of Harbor Drive from Fourth to Eighth Avenues	1999-2001
Hard Rock Hotel	Commercial development	393-room hotel that includes two, 12-story buildings, 25,000sf of retail, a sky bar, spa/fitness center, a grand ballroom, meeting space, underground parking, and restoration of the National City Otay Railroad Depot building	Bounded by Fifth, Sixth, L and K	Expected to be completed Fall 2006
D1, D2 Surface Parking Lots	Commercial and office development	443-space lot for future redevelopment opportunities for hotel, office, or other uses	Southeast corner of Imperial Avenue and Park Boulevard	Unknown.
Campus On Park	Office development	450,000sf urban technology/office campus	East of Petco Park between Park Boulevard, Imperial, Eleventh and K	Unknown.
Hotel Solamar	Commercial development	10-story (110 ft.) 235-room hotel includes 7,000sf of retail space, a restaurant, and pool deck	Street between Sixth and Seventh avenues	Expected to be completed May 2005

TABLE F-1
CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule
Left Field Block	Commercial development	23-story (240 ft.) building of 183 condominiums and 31,000sf of street-level retail that will include rehabilitation of the historic Kvaas Construction building and reconstruction of the historic Station A building	Bound by J, K, 7th and 8th directly north of the Petco Park ballpark	Expected to be completed January 2007
Park Terrace	Commercial development	223-unit mixed-use, two tower (eight and 14 stories, 87-146 ft.) project with 25,000sf of retail space	Block bounded by Tenth, Eleventh, Park and K	Expected to be completed early 2006
Campbell's Landing	Commercial development	45 story hotel with 300 slip marina and associated restaurant, retail, ballroom, 2 parking structures, and meeting space	South of Harbor Drive and east of Eighth Avenue	Unknown.
Bridgework's	Commercial development	253 room limited service hotel with two buildings incorporating the hotel, 32,000 sq ft of restaurant/retail space and addition to the promenade	Bounded by 5th Avenue on the east, K street on the north, 4th Avenue on the west, and the MTDB ROW and the Martin Luther King Jr Linear Park on the south	Unknown.
101 California	Residential development	33 story, 193 unit condominium complex on existing 65,250 SF site with parking.	Northwest corner of Kettner Blvd. and Harbor Drive	Unknown.
Market Street Residential	Residential development	75 unit apartment complex on 20,000 SF parking lot.	North of Market Street between 2nd and 3rd Avenue	Unknown.
Navy Broadway Complex	Commercial and industrial development	1 million sq ft of navy offices and 2.5 million sq ft of mixed commercial, office, hotel, and retail use	Bounded by PCH on the east, Harbor Drive on the west and south, and Broadway on the north	Unknown.
Horizons	Commercial and residential development	211 condominiums and 11,200 sq ft of commercial space in a twin-town configuration	Bounded by Market Street, 1st Avenue, Island Avenue, and Front Street	Under construction
Port District Maritime Master Plan	Future maritime uses/expansion	Expanding land area, dredging, access road, storage abilities	10th Avenue Marine Terminal; National City Marine Terminal; B Street; and other	2020
Trolley Extension (San Diego River Habitat Conservation Plan)	Public facility	Extension of trolley lines	northward across the San Diego River from Old town	Unknown.

TABLE F-1 CUMULATIVE SCENARIO – APPROVED AND PENDING PROJECTS

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule		
North Embarcadero Alliance Visionary Plan						
Bayfront Esplanade	Public pathway	100 foot wide continuous linear public open space, including 25- foot-wide promenade along western edge	Along the San Diego Bay	Expected to be completed 2008		
Broadway Landing	Public space	Pier from plaza extending over water; large expansive of the harbor to berth vessels	Bounded by B Street and Broadway at edge of B Street Pier and Pier 11A	Expected to be completed 2008		
Crescent Pier	Pier construction	Replacing existing Grape Street Piers with new crescent pier with small recreation facility	Between Laurel and Hawthorn Streets	Expected to be completed 2008		
County Administration Center Terrace	Public space	Passive green space along bayfront	Grape Street to expanded Maritime Museum	Expected to be completed 2008		
San Diego Midway Museum	Recreational development	Docking U.S.S. aircraft carrier into museum attraction	North of G Street Mole; south side of Navy Pier 11A	Expected to be completed 2008		
Lane Field	Commercial development	600-800 room hotel, office building, retail, and parking	north of Broadway, west of PCH, south of 1220 PCH (9.3 acres)	2000-05		
Cruise Ship Terminal	Cruise Ship Terminal Modernization	Remodeling and expansion of terminal and parkway area on the pier	B Street Pier- west of N. Harbor Drive, one block north of Broadway	2001-05		
San Diego County Administration Center Parking Lots	Commercial and office development	North lot: 6-story office building and related retail and with aboveground and underground parking; South lot: 6-story hotel with ancillary retail with aboveground and underground parking	Downtown San Diego.	Unknown.		
South Embarcadero Program 1						
Seaport Village Expansion	Commercial development	203,280 sq ft of new retail entertainment oriented/specialty retail, restaurants, arcades, courtyards, park	Bounded on the north by Harbor Drive; on the south by Seaport Village buildings; on the west by San Diego Bay; and on the east by Kettner Blvd.	Unknown.		
Park Expansion	Recreational development	10-acre public park including the 104,000 sq ft historic Old Police Station	South of Harbor Drive, west of Kettner and north of Seaport Village	Unknown.		

				Permitting Status/
Project	Project Type	Project Description/ Size	Project Location	Schedule
Hyatt Expansion	Commercial development	810 room hotel; 80,100 sq ft of exhibit, ballroom, and meeting space; open deck; connecting structure; plaza; access modification	Corner of Harbor Drive and Kettner Blvd.	Unknown.
Marriot Expansion	Commercial development	600 room hotel tower, increasing ballroom and registration space, widening access, relocating cooling towers, and retail space	Existing Marriot Hotel Site- 333 W Harbor Drive	Unknown.
Midway/Pacific Highway Corridor Communi	ty Plan			
Midway/Sports Arena Boulevard Shopping Center	Commercial development	Rehabilitate and/or redevelop the shopping center and orientate buildings and pathways toward Midway Drive	Midway/Sports Arena Boulevard	Unknown.
Loma Square	Commercial development	Rehabilitate the shopping center to improve parking, landscaping, and pedestrian access	Loma Square	Unknown.
Rosecrans Street/Place Commercial Island		Add pedestrian amenities, improve pedestrian and vehicular access, landscaping	Rosecrans Street/Place Commercial Island	Unknown.
Barnett Avenue Commercial Center	Street Improvements	Extend Barnett Avenue to Old Town Avenue with full interchanges at PCH and I-5; reconstruct the existing interchange; widening PCH to six lanes at Barnett	Barnett Avenue	Unknown.
Interstate 5/Interstate 8 Interchange	Street Improvements	Construct ramps to provide missing east-north and south-west moves	Interstate 5/Interstate 8 Interchange	Unknown.
Interchange	Street Improvements	Create interchange and I-8/ Kurtz Street	I-8/ Kurtz Street	Unknown.
New Street	Street Improvements	Construct a north-south access road	From Midway Drive to Barnett	Unknown.
New Street	Street Improvements	Construct a new street	From new street above to Kurtz Street	Unknown.
New Street	Street Improvements	Extend Kemper Street to a four lane major	Kemper Street to Kurtz Street	Unknown.
New Street	Street Improvements	Construct a new street	Kurtz Street to Hancock Street	Unknown.

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule
Street Widening	Street Improvements	Widen Rosecrans Street to add a shared northbound through lane along Rosecrans Street and westbound right turn lane to Sports Arena Boulevard	Rosecrans Street	Unknown.
Street Widening	Street Improvements	Improve Barnett Avenue to a six- lane primary arterial with Class II bike lanes from Midway Drive to PCH	Barnett Avenue from Midway Drive to PCH	Unknown.
Street Widening	Street Improvements	Widen Kurtz Street to a four-lane major street	Kurtz Street between Rosecrans Street and PCH	Unknown.
Street Widening	Street Improvements	Widen Sports Arena Boulevard to a four-lane collector; Class II bike lanes between Rosecrans Street and PCH; intersection modifications	Sports Arena Boulevard between Rosecrans Street and PCH	Unknown.
Street Widening	Street Improvements	Widen Rosecrans Street to an 8- lane major	Rosecrans	Unknown.
Street Widening	Street Improvements	Widen the west leg of Midway Drive at the intersection of Rosecrans Street by adding an eastbound through lane	Midway	Unknown.
Street Widening	Street Improvements	Widen the north leg of Sports Arena Blvd to add one southbound and eastbound left turn lane	Sports Arena Blvd	Unknown.
Street Widening	Street Improvements	Widen Midway Drive at West Point Loma intersection to add two northbound through lanes and one northbound to westbound left turn lane	Midway Drive	Unknown.
Street Widening	Street Improvements	Widen Rosecrans Street to add one southbound through lane	Rosecrans	Unknown.
Public Recreation Facility	Public facilities	Two-acre park with a recreation building and half acre mini-park	adjacent to Dewey Elementary School	Unknown.
New school	Public facilities	Construct a new elementary school	Near current Sports Arena	Unknown.

Project	Project Type	Project Description/ Size	Project Location	Permitting Status/ Schedule
Bay-to-bay canal	Industrial development	Development of a canal linking San Diego Bay to Mission Bay via the San Diego River	Cross Barnett Street, through the Gateway Village Housing site, through paved parking/storage area, and through western portion of the Navy's Old Town Campus	Unknown.

for the Port of San Diego; habitat conservation plans and SDG&E's recent Memorandum of Understanding (MOU) with the City of Chula Vista (October 2004) to underground existing and proposed transmission facilities along the Chula Vista Bayfront.

The MOU between SDG&E and the City of Chula Vista, provided in *Appendix* 7 to this EIR, envisions several possible future activities along the Chula Vista Bayfront that would result in changes to the physical environment producing related or cumulative impacts. Possible future undergrounding of existing 138 kV transmission lines, removing the activities include: supporting bridge structures, undergrounding of existing 69 kV transmission lines, and upgrading or moving SDG&E's Main Street Substation. None of the potential future activities are certain to occur as a result of the OMPPA Transmission Project. However, there is no obligation on the part of SDG&E or Chula Vista to pursue them if the Proposed OMPPA Transmission Project is not approved and, since the Proposed Project is one of multiple conditions that must happen in order for these activities to be undertaken in the future, this EIR takes the conservative view of considering these activities to be reasonably foreseeable activities that may result from approval of the Proposed Project and that may result in related or cumulative environmental impacts. Thus, the impacts of these potential future projects are explored within the cumulative impacts analysis. Although no formal applications have been submitted for any of these future activities, because an application for some of them is expected near term (spring 2005) per the MOU, and because they are reasonably foreseeable consequences of (to some degree, or at least have a substantial relationship to) the Proposed Project, they are each included in the cumulative section and described below:

Potential Future Projects Identified in the SDG&E MOU with the City of Chula Vista

Silvergate/Main Street Substation

SDG&E is proposing to replace the existing Main Street Substation located near a residential area north of Harbor Drive at the intersection of Evans Street and Main Street in the City of San Diego with the proposed Silvergate Substation proposed to be located south of Harbor Drive in an industrial area within the City of San Diego. The site currently contains a parking lot, machine shop warehouse, substation and de-commissioned power house. The substation would occupy an area approximately 440 feet by 500 feet. The tallest substation structure is estimated to be approximately 55 feet in height. The construction duration would be approximately 18 – 24 months.

Upgrades at South Bay Substation

A new 138/69 kV 224 MVA transformer and associated equipment are proposed to be installed within the existing South Bay Substation in order to support the power system as it is affected by the work being done at the Main Street/Silvergate Substation site. The tallest substation structure is estimated to be approximately 70 feet in height. The construction schedule would be approximately 8 - 14 months.

Reconductor Portions of 138 kV Transmission Line (TL13824) Between South Bay Substation and Los Coches Substation

The South Bay Substation to Los Coches Substation (South Bay to Los Coches) transmission line is proposed to be reconductored with a higher ampacity rating circuit at various portions throughout the segment. The proposed work would reconductor various portions of TL13824 with a higher ampacity conductor. TL13824 is an existing 138 kV line on existing supporting steel lattice towers, steel and wood pole structures within SDG&E's existing ROW.

138 kV Lattice Steel Bridge Structure Removal

Upon the completion of Silvergate Substation, two of three 138 kV circuits currently installed in the SDG&E ROW between the South Bay Power Plant Switchyard and Main Street Substation and located on the existing lattice steel bridge structures are proposed to be de-energized and removed from operation. The remaining 138 kV circuit would be installed underground in SDG&E's existing ROW using similar trenching and boring techniques as described for the Proposed OMPPA Project Transmission Project between the South Bay Power Plant Switchyard and the Sweetwater River. Once these 138 kV circuits are removed and undergrounded and the City of Chula Vista and SDG&E agree on the timing, then approximately eighteen (18) lattice steel 138 kV structures would be removed in Chula Vista. A six to eight month construction duration would be required; however, it is unknown at this time exactly when the removal would occur.

Potential Environmental Effects of Future Projects Identified in SDG&E's MOU with the City of Chula Vista

The Silvergate/Main Street Substation Project, upgrades to South Bay Substation, the reconductoring of portions of the 138 kV transmission line between the South Bay Substation and Los Coches Substation, and the 138 kV lattice bridge structure removal are all similar in siting characteristics to the Proposed OMPPA Transmission Project. A number of potential environmental effects may occur which are either common to or related to one or more of these projects described above. These environmental effects issues are summarized in *Table F-2* and

SDG&E OMPPA Transmission Project F. OTHER CEQA CONSIDERATIONS

generally described below, and are considered in the broader cumulative impact analysis (see *Section F.4*). It should be noted that approval of these potential future activities would constitute "projects" under CEQA for which CPUC or other agency approvals are needed and which would undergo appropriate, project-specific CEQA analysis whenever they are in fact proposed.

TABLE F-2 FUTURE PROJECTS IDENTIFIED IN SDG&E'S MOU WITH THE CITY OF CHULA VISTA RELATED ENVIRONMENTAL ISSUES

Environmental Issues	Silvergate/Main Street Substation	Upgrades at South Bay Substation	Reconductor 138 kV Line South Bay to Los Coches	138 kV Lattice Bridge Structure Removal
Air Quality (construction emissions)	Yes	Yes	Yes	Yes
Biological Resources (Sweetwater Marsh National Wildlife Refuge)	N/A	N/A	N/A	Yes
Biological Resources (sensitive upland resources)	N/A	N/A	Possible	Possible
Cultural Resources	Possible	N/A	Possible	Possible
Geology, Soils and Paleontology	Yes	Yes	Possible	Yes
Hydrology/Water Quality	Yes	Possible	Possible	Yes
Land Use and Recreation (short-term disruption) (long-term conflicts)	Yes	Possible Beneficial	Possible Beneficial	Yes Beneficial
Noise and Vibration (short-term construction) (long-Term operation)	Yes	Yes Possible	Yes	Yes
Public Health and Safety (short-term construction) (long-term operation)	Possible	Possible Possible	Possible	Possible Beneficial
Transportation/Traffic (short-term construction)	Yes	Yes	Yes	Yes
Visual Resources (short-term construction)	Yes	Yes	Yes	Yes
(long-term operation)	N/A	N/A	N/A	Beneficial

N/A - not anticipated

Air Quality: Operation of these potential future projects would not generate air emissions. Construction emissions are not expected to exceed identified significance thresholds. Furthermore, measures can be incorporated into these projects which would reduce short-term construction effects associated with generation of particulate matter less than 10 microns (PM_{10}) as required by the San Diego Air Pollution Control District (APCD).

Biological Resources: The Silvergate/Main Street Substation project and upgrades to the South Bay Substation would be developed in highly urbanized areas and therefore are not expected to impact biological resources. Reconductoring the 138 kV line from South Bay to Los Coches could have temporary impacts to biological resources. Compliance with SDG&E's NCCP is expected to minimize these temporary impacts to less than significant. Removal of the 138 kV lattice bridge structures and undergrounding of the 138 kV circuit could potentially create significant impacts to the Sweetwater Marsh Natural Wildlife Refuge. Measures similar to those incorporated into the OMPPA Transmission Project including avoidance by boring under the Refuge and restoration, and in compliance with SDG&E's NCCP, are anticipated to reduce these potentially significant impacts to less than significant.

Cultural and Paleontological Resources: It is anticipated that there is low potential for encountering important paleontological or archaeological resources as a result of constructing these potential future projects. Incorporation of archaeological review and if necessary, avoidance measures, monitoring and collection are anticipated to reduce impacts to cultural resources to less than significant.

Geology and Soils: Although geologic hazards occur in the project area (liquefaction, fault rupture, seismic), it is expected that design of these potential future projects in accordance with a site-specific geotechnical investigation would reduce risks associated with geologic hazards to below a level of significance.

Hydrology and Water Quality: It is anticipated that these potential future projects would not increase existing stormwater discharge or have long-term effects to hydrology or water quality. It is anticipated that potential discharge of sediments and pollutants during construction as well as discharge of groundwater through dewatering or boring activities can be reduced to less than significant through incorporation of measures similar to those incorporated into the OMPPA Transmission Project (implement SWPPP and BMPs in compliance with NPDES permit).

Land Use and Recreation: Because these potential future projects would be developed in areas that already support established utility uses and would be consistent with the requirements of the MOU between SDG&E and the City of Chula Vista, long-term land use impacts are expected to be beneficial.

Noise: Impacts resulting from both construction and operation noise are anticipated to comply with local City Noise Ordinances and therefore be less than significant.

Hazards: It is anticipated that measures will be incorporated into these potential future projects to ensure that potential exposure to existing hazardous materials onsite during construction will be reduced to below significant by ensuring public health and safety in accordance with State of California Health and Safety Regulations as managed by the San Diego Department of Environmental Health. These proposed future projects are not anticipated to generate hazardous materials.

Transportation and Circulation: During operation, these proposed future projects are expected to generate approximately one to two vehicle trips per day. This limited number of vehicle trips would result in less than significant impacts to traffic or traffic congestion.

During construction (approximately 8 - 24 months), traffic will be generated by construction crews and equipment/material deliveries. However, traffic control measures, in accordance with local City requirements, could be incorporated into the projects. It is anticipated that incorporation of these measures would reduce short-term construction-related traffic impacts to less than significant.

Visual Resources: Beneficial visual impacts are expected from implementation of the proposed projects in accordance with the City of Chula Vista's efforts to redevelop the Chula Vista Bayfront.

F.4 Cumulative Impact Analysis

This section presents the analysis of the potential for the Proposed Project to create cumulatively considerable effects when the impacts of projects listed in *Table F-1* are considered together with the impacts of the Proposed Project. Sections are presented in the same order in which they appear in Section D.

F.4.1 Air Quality

Future and proposed construction projects in close proximity to the Proposed Project could result in cumulative air quality impacts in the study area. There is the possibility of a variety of projects, mainly the Silvergate/Main Street Substation Project and associated projects within the City of San Diego and Chula Vista along the bayfront as well as roadway, utility improvements and local residential development, occurring at the same time as project construction. The pollutants generated from construction of these projects could result in an impact on ambient air quality that would overlap with those of the Proposed Project if the construction work occurs in

SDG&E OMPPA Transmission Project F. OTHER CEQA CONSIDERATIONS

close proximity and at the same time. Construction of the cumulative projects could further exacerbate the potentially significant, but mitigable, project-related construction air quality impacts. Mitigation measures identified for the Proposed Project would remain applicable, and other cumulative projects would also need to comply with local ordinances prohibiting nuisances or requiring dust control. *Section D.2.3* provides a more detailed description of the effects of the Proposed Project on air quality. The mitigation measures identified for the project impacts would reduce the Proposed Project's cumulative construction impacts to a level that would be less than significant and not cumulatively considerable.

Local air quality rules, regulations, and attainment plans direct how San Diego County would eventually achieve attainment for ozone and PM10. A project may be deemed inconsistent with applicable air quality plans if it would result in stationary sources that would not comply with SDAPCD rules and regulations or if it would induce population and/or employment growth exceeding the growth estimates included in the SDAPCD Regional Air Quality Strategy. The Proposed Project itself would not include any permanent, stationary sources of air pollution (Impact A-5) and, as discussed in *Section F.1*, would not induce population and/or employment growth. As discussed in *Section D.2, Air Quality* of this EIR (see Impact A-5), the Proposed Project could influence emissions from existing, planned and approved power plants, but it would not change the regional demand for power and would generally improve the efficiency of delivering power from the OMGP. Therefore, the Proposed Project would not contribute in a cumulatively considerable manner to cumulative air quality impacts associated with power generation.

F.4.2 Biological Resources

Regional biological resources are becoming more scarce as growth and development continue within San Diego County. Generally, the loss of vegetation and habitat associated with the project represents a cumulative, significant impact in a regional context, especially given the number of other proposed projects in the area and the sensitivity of the habitats. Many impacts to plant and animal species, such as federal Fish and Wildlife Service Birds of Conservation Concern (BCC) species, State Species of Special Concern (CSC), and CNPS List 1B and List 2 species, that are not considered significant on a project-specific basis may be cumulatively significant when the sum of all the projects listed in *Table F-1* are taken into account. These species are most commonly found in coastal sage scrub habitats in the area, but may also occur in wetlands, coast live oak woodlands, native grasslands, and chaparral habitats along the coastal plain.

The resource agencies consider all impacts to coastal sage scrub to be significant (both locally and cumulatively) because of the sensitivity of this habitat. Portions of the project affect coastal

sage scrub. Therefore, the Proposed Project's impacts to coastal sage scrub and surrounding areas are cumulatively considerable and significant.

Impacts to chaparral are considered cumulatively significant on a regional basis because of their rarity and capability to support declining species. The loss of wetlands such as southern coastal salt marsh, mudflat, drainage and open water, is also considered a significant cumulative impact. Although the direct impacts to non-native grassland are not significant, the cumulative impacts to non-native grassland are generally considered significant because of the loss of foraging habitat for raptors and their occurrence within designated MSCP core biological resource areas and linkages.

The development of regional, multi-species conservation programs (MSCP) is the result of the cumulative reduction of natural habitats within western San Diego County. These are recognized subregional planning programs of California's Natural Community Conservation Planning (NCCP) act of 1991 and its Southern California Coastal Sage Scrub Program. These plans and programs are in response to the cumulative reduction of coastal sage scrub to the point where conservation is critical to prevent endangerment of many species such as the federally listed California gnatcatcher. In general, some site-specific impacts could be mitigated through avoidance of sensitive habitats and species; implementation of site-specific revegetation programs; and compliance with appropriate permit conditions determined by the CDFG, Corps, and USFWS. Additionally, SDG&E is involved in project-specific mitigation and subregional mitigation programs through its subregional NCCP that implements the regional biological conservation goals of the NCCP Act of 1991. However, even with project-specific mitigation, sensitive habitats would be lost as a result of the incremental impacts of the related projects in conjunction with the OMPPA Transmission Project. This impact is considered cumulatively considerable and significant.

Cumulative impacts within a region are most effectively mitigated by a comprehensive plan that addresses the impacts of regional growth on wildlife and its habitats. The MSCP plans establish a framework to develop a preserve system that provides for the continued existence of sensitive species and the maintenance of natural diversity. Mitigation for the OMPPA Transmission Project's significant direct and indirect impacts would be consistent with these plans and would reduce these impacts to below a level of significance. Continued participation by SDG&E in their Subregional NCCP and other project proponents within the study area in regional conservation planning such as the MSCP will reduce cumulative impacts to biological resources to below a level of significance.

F.4.3 Cultural Resources

Construction of the OMPPA Transmission Project would not contribute to the potential for loss of known significant cultural resources. However, construction of the Proposed Project may contribute to the potential loss of yet to be discovered significant cultural resources. Many of the projects listed in *Table F-1* are proposed in areas previously known to contain cultural resources. Development of the Proposed Project in conjunction with these other projects would require excavation activities that have the potential to disturb cultural resources. When viewed cumulatively, these projects could result in a significant impact to cultural resources. With proper environmental planning and appropriate mitigation, the Proposed Project is expected to successfully preserve significant cultural resources if present, and can provide opportunities for increasing our understanding of past environmental conditions and culture history. Therefore, the mitigation measures identified for the Project's impacts would reduce the Proposed Project's cumulative impacts to cultural resources to a level that would be less than significant and not cumulatively considerable.

F.4.4 Geology, Soils, and Paleontology

Potential cumulative geologic impacts (considering all proposed and in-progress development in the project area) consist of loss of unique geologic features or known mineral, energy, and/or paleontological resources, substantial alteration of the topography, or triggering or acceleration of erosion or of slope failures. Seismic impacts (ground shaking or ground failure) are not cumulative. Construction of the Proposed Project would contribute only a negligible increase to potential cumulative geologic impacts. Mitigation measures that would minimize construction-related impacts caused by the Proposed Project would minimize the cumulative effects of these impacts to a level that would be less than significant and not cumulatively considerable.

F.4.5 Hydrology and Water Quality

Future and proposed construction projects in close proximity to the Proposed Project could result in cumulative hydrologic impacts on the study area. There is the possibility of a variety of projects, mainly the Silvergate/Main Street Substation Project and associated projects within the City of San Diego and Chula Vista along the bayfront as well as roadway, utility improvements and local residential development occurring at the same time as project construction. The pollutants generated from construction of these projects could result in a significant cumulative impact on water quality if the construction work occurs in close proximity and at the same time as the Proposed Project. This would include the disturbance of sediments that could potentially wash into the San Diego River and Sweetwater River watersheds, and the potential for construction-related contaminants to reach surface water and groundwater. Mitigation measures identified for the Proposed Project would reduce the Proposed Project's cumulative impacts to hydrology and water quality to a level that would be less than significant and not cumulatively considerable.

F.4.6 Land Use and Recreation

Other projects proposed for areas in proximity to the OMPPA Transmission Project would have the same land use and recreation concerns in terms of onsite land use displacement; compatibility of land uses internal to each project; and project consistency with applicable land use policies, designations and zoning. The Proposed Project is located entirely within SDG&E utility ROW or underground within city roadways and therefore would not contribute to cumulative land use impacts associated with inconsistencies with applicable land use policies, designations and zoning. The potential for the Proposed Project to result in cumulative land use and/or recreation impacts would be limited to disruptions during construction activities and minor displacement associated with new transmission poles proposed to be located in various parks and parking lots.

The combination of construction of the project's overhead and underground segments combined with any planned expansion of the study area roadways and utility projects may create significant short-term construction-related cumulative impacts to existing land uses (e.g., business and residences adjacent to study area roads and public facilities within study area roads). It is anticipated that cumulative impacts to existing land uses resulting from ongoing development can be mitigated to a level of less than significant at the individual project level by incorporating mitigation measures as described in Section D.7 of this EIR, including obtaining respective encroachment permits, coordination with property owners, and local jurisdictional agencies. Additional mitigation measures are described to mitigate short-term construction impacts to air quality, noise, utilities, traffic and visual resources as described in Sections D.2, D.8, D.10, D.12 and D.13. These measures would reduce the Proposed Project's cumulative construction impacts to a level that would be less than significant and not cumulatively considerable. These measures will also ensure that ongoing development will comply with all appropriate design guidelines and that planned improvements, construction scheduling and maintenance/operation activities will be precisely identified in order that ongoing development does not conflict with existing and/or planned land uses within the study area. Within the City of Chula Vista along the bayfront, beneficial cumulative land use impacts are expected when combining the Proposed Project with the Silvergate/Main Street Substation Project which proposes undergrounding existing 138 kV/68 kV lines along the bayfront.

F.4.7 Noise and Vibration

Potential adverse noise impacts resulting during construction of the Proposed Project would be localized and would occur intermittently for varying periods of time throughout the estimated

SDG&E OMPPA Transmission Project F. OTHER CEQA CONSIDERATIONS

two-year construction period. Short-term cumulative impacts related to ambient noise levels could occur if construction associated with the Proposed Project modifications as well as surrounding current and future development (see *Table F-1*) would be constructed simultaneously. Noise associated with construction of the Proposed Project in combination with other nearby projects could adversely impact residents in the vicinity of the Project. The severity of the short-term cumulative impacts cannot be determined at this time because it is not certain that any of the projects would proceed simultaneously. Considering, however, that sensitive receptors such as residences would be located throughout the area proposed for these projects, any simultaneous construction of the projects could create a significant short-term cumulative impact. Short-term impacts from construction noise can be mitigated to a level of less than significant by incorporating mitigation measures as described in *Section D.8* of the EIR, including ensuring compliance with affected jurisdiction's noise ordinances which generally restrict construction to normal daytime work hours. These measures would reduce the Proposed Project's cumulative jorder construction impacts to a level that would be less than significant and not cumulatively considerable.

Operation of the OMPPA Transmission Project underground segment would not contribute to ambient noise. Operations of the overhead transmission line and substation modifications are not expected to be above daytime ambient noise levels in the project area and/or in excess of standards in the local noise ordinances for adjacent properties. Therefore, in the absence of significant impacts, incremental accumulation of significant effects due to the Proposed Project would not occur.

F.4.8 Public Health and Safety

Because electric and magnetic field (EMF) issues are not considered in this EIR to be environmental impact issues under CEQA, no discussion of cumulative impacts for EMF is presented. Therefore, this section focuses on hazardous materials and contamination.

As discussed in *Section D.9, Public Health and Safety,* a site assessment was conducted for the project study area that identified hazardous materials in the study area. Construction of the project as well as other proposed projects in the study area could increase the opportunity and likelihood for exposure of people to hazardous materials or health risks associated with disturbance of hazardous materials. Compliance with applicable laws and regulations identified in *Section D.9* would reduce the project's cumulative impacts to health and safety to a level that would be less than significant and not cumulatively considerable. It is anticipated that adherence to applicable federal, state and county laws and regulations associated with other projects in the area will reduce the cumulative risk of adverse public health effects associated with the use, storage, and transport of hazardous materials to less than significant.

F.4.9 Public Services and Utilities

The Proposed Project would have less than significant demands to public services and utilities during construction and would not place demands on public services or utilities during operation and therefore would not contribute to cumulative demand on public services and utilities.

Of the cumulative projects identified in *Table F-1*, there are several infrastructure projects which, when combined with the Proposed Project, could disrupt utility systems. As discussed in *Section D.10, Public Service and Utilities*, with implementation of APM 66 which requires the applicant to contact Underground Service Alert prior to construction, as well as identified mitigation measures which require coordination with affected jurisdictional departments and utilities in conjunction with final design, the portion of utility disruption impacts contributed by the Proposed Project would not be cumulatively considerable.

F.4.10 Population and Housing

As discussed in *Section D.11, Population and Housing* of this EIR, the Project would not require the removal of any existing housing units, displacement of any persons and would have no effect on population growth in the area. *Section F.1, Growth Inducement, provides a more detailed discussion of growth-inducing effects related to the Proposed Project. In the absence of impacts to population and housing, incremental accumulation of effects to population and housing would not occur.*

F.4.11 Transportation and Traffic

As discussed in Section D.12, Traffic, construction of the Proposed Project would contribute to short-term impacts to traffic circulation on local roadways. Significant cumulative traffic circulation impacts could result over the short-term if future and proposed projects as presented in Table F-1, particularly if the Silvergate/Main Street Substation Project and associated projects within the City of San Diego and Chula Vista, were under construction simultaneously and in the same general location. Short-term traffic impacts caused by construction of the projects proposed within the study area would result from street closures, increased truck traffic, and disruption of local traffic to residences and businesses. The severity of the short-term impacts cannot be determined at this time because it is not certain that any of the projects would proceed simultaneously. It is anticipated that short-term impacts to project area roads can be mitigated to a level of less than significant by incorporating mitigation measures as described in Section D.12 of the EIR, including using construction techniques such as boring and restriction of hours, preparation and implementation of a traffic control plan and reconstruction of affected streets to previous conditions. These measures will ensure that affected roadways will be restored to previous conditions; access will be maintained to individual properties and businesses; that emergency access will not be restricted; and that congestion and delay of traffic resulting from ongoing development are not substantially increased and will be of a short-term nature in accordance with each jurisdiction's traffic control and engineering guidelines. These measures would reduce the Proposed Project's cumulative construction impacts to a level that would be less than significant and not cumulatively considerable.

The operation of the proposed project would generate minimal traffic only required for routine patrolling and maintenance and therefore, the project would not contribute to long-term cumulative impacts to traffic.

F.4.12 Visual Resources

Cumulative impacts to visual resources would occur where project facilities would be viewed in combination with other past, present, and future developments. The significance of cumulative visual impacts would depend upon a number of factors including: (1) the degree to which the viewshed is altered; (2) the degree to which visibility to scenic resources is impaired due to either view obstructions or direct impacts to scenic resource features; and (3) the degree to which the project's visual contrast or dominance is increased due to changes in the viewed environment.

To the extent that the Proposed Project would be visible during construction along with one or more of the cumulative projects, adverse cumulative impacts may occur from the construction equipment, vehicles, materials, staging areas, and personnel. These construction impacts, however, would be temporary and would not create significant cumulative effects.

For the underground portion of the Proposed Project, the project would not be visible and no long-term cumulative adverse visual impacts would occur with any of the cumulative projects in the vicinity of the underground route. Within the City of Chula Vista along the bayfront, beneficial cumulative visual impacts are expected when combining the Proposed Project with the proposed SDG&E Silvergate/Main Street Substation Project as well as future redevelopment of the South Bay Power Plant and Bayfront which together propose to underground existing 138 kV/69 kV lines along the bayfront, remove the bridge structures along the bayfront and redevelop the industrial areas associated with the South Bay Power Plant.

For the proposed overhead transmission line, substation modifications and transition station, long-term cumulative visual impacts would be most evident for the proposed overhead transmission line between the Miguel Substation and I-5 when viewed in combination with past, present and future projects within a one-half mile distance zone. Beyond this distance, the addition of the 230 kV steel tubular poles and additional conductors proposed by SDG&E would have little discernible cumulative effects with other planned developments.

From the Miguel Substation to I-5, the Proposed Project would have significant and unavoidable (Class I) visual impacts to views from a number of local residential neighborhoods, park and recreation areas, and public facilities. Significant and unavoidable (Class I) visual impacts would result from the proposed OMPPA Transmission Project since the 230 kV line would be installed on single steel poles that would be viewed in conjunction with the existing 138 kV lattice towers. Cumulatively, the existing and proposed transmission structures would create a visually dominant industrial corridor through residential areas of Chula Vista. The differences in form and design between the existing lattice towers and proposed single steel pole structures would contribute to the visual disharmony and industrial character of the SDG&E ROW. The significant visual impacts from the OMPPA Transmission Project would occur primarily within a foreground viewing distance (within 0.5 mile) where the new structures and lines would be clearly visible in conjunction with the existing lattice structures. This impact from the Miguel Substation to I-5 is considered cumulatively considerable and significant.

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- San Diego Unified Port District. Final Environmental Impact Report for South Embarcadero Redevelopment Program 2 and Port Master Plan Amendment. March 2001. Prepared by P&D Environmental Services.

Southwest Redevelopment Project Area. Five Year Implementation Plan for Years 2000 – 2004.

Unified Port of San Diego. <u>http://www/portofsandiego.org/projects/</u>. Accessed October 13, 2004.

G. MITIGATION MONITORING AND REPORTING

This EIR includes a proposed Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the mitigation measures proposed herein for the OMPPA Transmission Project. An MMCRP table for the Proposed Project and the alternatives is provided at the end of each issue area's environmental analysis in *Section D (D.2 through D.13)*. *Section G.1* herein provides the recommended framework for the implementation of the MMCRP by the CEQA Lead Agency, the CPUC, and describes the roles and responsibilities of government agencies in implementing and enforcing adopted mitigation measures.

G.1 Authority for the Mitigation Monitoring, Compliance, and Reporting Program

The California Pubic Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service and the safety, practices and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval be implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a Mitigation Monitoring, Compliance, and Reporting Program when it approves a project that is subject to preparation of an EIR and where the EIR for the project identifies significant adverse environmental effects. CEQA Guidelines Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring or reporting.

The purpose of a MMCRP is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The CPUC views the MMCRP as a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance and reporting activities of the CPUC and any monitors it may designate.

The Commission will address its responsibility under Public Resources Code Section 21081.6 when it takes action on SDG&E's application for a Certificate of Public Convenience and Necessity. If the Commission approves the application, it will also adopt a MMCRP that includes the mitigation measures ultimately made a condition of approval by the Commission.

G.2 Organization of the Final Mitigation Monitoring Plan

If the project or an alternative to the project is approved, the MMCRP should serve as a selfcontained general reference for the Mitigation Monitoring Program adopted by the Commission for the OMPPA Transmission Project. To accomplish this, the Final Mitigation Monitoring Plan should contain seven elements (as indicated below). If and when a project has been approved by the Commission, the CPUC will compile the Final Plan from the Mitigation Monitoring Program in the Final EIR, as adopted. The elements of the Mitigation Monitoring Plan are as follows:

MMCRP Introduction

- Authority and Purpose of the Program
- Program Adoption Process
- Organization of the MMCRP

Roles and Responsibilities

- Monitoring Responsibility
- Enforcement Responsibility
- Mitigation Compliance Responsibility
- Dispute Resolution

General Monitoring Procedures

- Environmental Monitor
- Construction Personnel
- General Reporting Requirements
- Public Access to Records

Project Description

In the Final Plan, this section will contain a concise overview and reference description of the approved project that clearly outlines its physical locations and timetable, including construction spreads. This section will also specify the "master" reference(s) which the monitors and the Applicant will use in carrying out the Program, e.g., the Final EIR, but also more detailed working maps and plans. The APMs to which SDG&E has committed to reduce potential impacts will also be listed in this section.

Agency Jurisdictions

In the Final Plan, this section will include the list of agencies with jurisdiction over the project (from EIR Table A-1), and a description of where their respective jurisdictions exist. For example, for a given construction spread, state what local land use agency has jurisdiction, provide the contact name, the address, telephone and fax numbers.

Mitigation Monitoring Programs

The Final Plan will incorporate the organization and display of the individual issue area Mitigation Monitoring Programs presented in the Final EIR, as well as all APMs applicable to the project. Each mitigation measure will be numbered and described briefly. The Final EIR should be consulted for an in-depth discussion of each mitigation measure. The Mitigation Monitoring Plan will also include:

- The party responsible, the schedule and the reporting requirements for carrying out the monitoring activity for each mitigation measure.
- Effectiveness criteria for evaluating the implementation of the mitigation measure.

G.3 Roles and Responsibilities

As the lead agency under CEQA, the CPUC is required to monitor this project to ensure that the required mitigation measures and APMs are implemented. The CPUC will be responsible for ensuring full compliance with the provisions of this monitoring program and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures required by the CPUC are implemented and that mitigated environmental impacts are reduced to the level identified in the Program.

The CPUC may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities. The number of construction monitors assigned to the project will depend on the number of concurrent construction activities and their locations. The CPUC, however, will ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

Any mitigation measure study or plan that requires the approval of the CPUC must allow at least 60 days for adequate review time. When a mitigation measure requires that a mitigation program be developed during the design phase of the project, the Applicant must submit the final program to CPUC for review and approval for at least 60 days before construction begins. Other agencies and jurisdictions may require additional review time. It is the responsibility of the environmental monitor assigned to each spread to ensure that appropriate agency reviews and approvals are obtained.

The CPUC along with its environmental monitors will also ensure that any variance process or deviation from the procedures identified under the monitoring program is consistent with CEQA

requirements; no project variance will be approved by the CPUC if it creates new significant impacts. As defined in this Section, a variance should be strictly limited to minor project changes that will not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A proposed project change that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved project, adopted mitigation measures, APMs, and correction of such deviation, shall be reported immediately to the CPUC and the environmental monitor assigned to the construction spread for their review and approval. In some cases, a variance may also require approval by a CEQA responsible agency.

G.4 Enforcement Responsibility

The CPUC is responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to each construction spread. The environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC.

The CPUC has the authority to halt any construction, operation, or maintenance activity associated with the OMPPA Transmission Project if the activity is determined to be a deviation from the approved project or adopted mitigation measures. The CPUC may assign this authority to the environmental monitor for each construction spread.

G.5 Mitigation Compliance Responsibility

The Applicant, SDG&E, is responsible for successfully implementing all the adopted mitigation measures in the MMCRP. The MMCRP will contain criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include success criteria that are listed in the tables at the end of each issue area section. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

The Applicant shall inform the CPUC and its monitors in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC in coordination with its monitors will assess whether alternative mitigation is appropriate and specify to SDG&E the subsequent actions required.

G.6 Dispute Resolution

It is expected that the Final MMCRP will reduce or eliminate many potential disputes. However, even with the best preparation, disputes may occur. In such event, the following procedure will be observed:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC's designated Project Manager for resolution. The Project Manager will attempt to resolve the dispute.
- **Step 2.** Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring Program.
- Step 3. If a dispute or complaint regarding the implementation or evaluation of the Program or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.
- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties may also seek review by the Commission through existing procedures specified in the Commission's Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

G.7 General Monitoring Procedures

G.7.1 Environmental Monitor

Many of the monitoring procedures will be conducted during the construction phase of the project. The CPUC and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with SDG&E. To oversee the monitoring procedures and to ensure success, the environmental monitor assigned

to each construction spread must be onsite during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor is responsible for ensuring that all procedures specified in the monitoring program are followed.

G.7.2 Construction Personnel

A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions detailed in specific mitigation measures included in the Final Implementation Plan, will be taken:

- Procedures to be followed by construction companies hired to do the work will be written into contracts between SDG&E and any construction contractors. Procedures to be followed by construction crews will be written into a separate agreement that all construction personnel will be asked to sign, denoting agreement.
- One or more pre-construction meetings will be held to inform all and train construction personnel about the requirements of the monitoring program (as detailed in the Final Implementation Plan).
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all mitigation measures requiring their attention.

G.7.3 General Reporting Procedures

Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned to the relevant construction spread. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress traced by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems. The Applicant shall provide the CPUC with written quarterly reports of the project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the project. Quarterly reports shall be required as long as mitigation measures are applicable.

G.7.4 Public Access to Records

The public is allowed access to records and reports used to track the monitoring program. Monitoring record and reports will be made available for public inspection by the CPUC on request. The CPUC and the Applicant will develop a filing and tracking system. For additional information on mitigation monitoring and reporting for the OMPPA Transmission Project, the Energy Division of the CPUC will maintain an Internet website, accessible at http://dudek.com/cpuc/sdge-omppa-trans-proj/. In order to facilitate the public's awareness, the CPUC will make weekly reports available on the website.

G.8 Condition Effectiveness Review

In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a Mitigation Monitoring Program to ensure compliance during project implementation (CEQA 21081.6):

- The CPUC may conduct a comprehensive review of conditions which are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined in G.3.4; and
- If in either review, the Commission determines that any conditions are not adequately mitigating significant environmental impacts caused by the project, or that recent proven technological advances could provide more effective mitigation, then the Commission may impose additional reasonable conditions to effectively mitigate these impacts.

These reviews will be conducted in a manner consistent with the Commission's rules and practices.

G.9 Mitigation Monitoring Program Tables

Mitigation Monitoring Program tables are presented at the end of each issue area section (*Sections D.2 through D.13*). These tables, along with the full text of the mitigation measures themselves, will form the basis for implementation of the Mitigation Monitoring Program.

H. PUBLIC PARTICIPATION

This section outlines the scoping and public participation program completed by the CPUC before issuance of the Draft EIR.

H. 1 EIR Scoping Process

The scoping process for the OMPPA Transmission Project EIR consists of three elements listed below. Each element is described in more detail in the following sections:

- 1. Publication of a Notice of Preparation (NOP) of an EIR and Notice of Public Scoping Meetings soliciting comments from affected public agencies and members of the public, as required by CEQA;
- 2. Public Scoping Meetings and meetings with agencies;
- 3. Summarization of scoping comments in a Scoping Report; and
- 4. Publication of Public Notice notifying public that SDG&E had amended the Project Description.

In order to maximize agency and public input on the OMPPA Transmission Project, the CPUC established a website and local EIR Information Repositories. The NOP, Scoping Report, Public Notices and other project information were posted to the project website for review by the public and interested parties.

H.1.1 Notice of Preparation

In accordance with California Public Resources Code Section 21092.2, CEQA Guidelines Section 15082, and the CPUC General Order (G.O.) 131-D, the CPUC completed distribution of the NOP and Public Notice for EIR for the Proposed Project on July 21, 2004 and distributed it as discussed below. The official public review period was between July 23 and August 23, 2004. Public notification included direct agency and public notification, newspaper announcements, and posting on the project website.

Agency, Private Organization, and Interest Group Notification

The State Clearinghouse and federal, State and local trustee, agencies that may be affected by the Proposed Project, and agencies previously requesting notice in writing to the CPUC were included on the distribution list. The NOP and Public Notice were mailed to 15 federal agencies and departments, 24 state agencies and departments, 74 local agencies, departments and special districts, 18 Native American groups or departments, and 23 private organizations and interest groups.

Public and Property Owner Notification

The Public Notice was also sent to over 3,000 stakeholders including property owners within 300 feet of the Proposed Project, as well as any party previously requesting notice in writing to the CPUC.

Copies of the NOP were placed in seven libraries within the vicinity of the project. The Public Notice was also published on July 23, 2004 in *The Star News* and *The San Diego Union-Tribune*. Additionally information was posted on the Internet as described in the Public Notice.

H.1.2 Public Scoping Meetings

As part of the EIR scoping process, three public scoping meetings were conducted to solicit comments regarding the scope and content of the EIR, as well as the alternatives and mitigation measures that should be considered as part of the analysis. Forty-one individuals were documented in attendance at the meetings on the meeting sign-in sheets (11 on 08/03/04 at the Balboa Park Club, 22 on 08/04/04, 2-4 PM at the Chula Vista Council Chambers, and eight on 08/04/04, 7-9 PM at the Chula Vista Council Chambers). It is noted that some individuals attended more than one meeting. The scoping meetings were held at the following locations and times:

- August 3, Balboa Park Club Building, 7-9 PM, 2125 Park Blvd., San Diego
- August 4, City of Chula Vista Council Chambers, 2-4 PM, 276 Fourth Ave., Chula Vista
- August 4, City of Chula Vista Council Chambers, 7-9 PM, 276 Fourth Ave., Chula Vista

H.1.3 Scoping Report

In September 2004, a comprehensive Scoping Report was issued summarizing concerns received from the public and various agencies and presenting copies of comment letters received. Twenty-two letters were received from public agencies, private organizations, and local residents during the NOP scoping period. Commenting agencies and scoping meetings attendees were provided a copy of the Scoping Report. Agencies, private organizations, interested groups and adjacent property owners were also notified via public notice that the Scoping Report was posted on the CPUC's website and available for review.

The majority of public comments focused on the potential impacts of the OMPPA Transmission Project on the human environment, most often expressing concerns with issues arising from above ground transmission lines in the City of Chula Vista and below ground transmission lines in the City of San Diego. Many commentors stated that the City of Chula Vista has previously received a disproportionate amount of effects from existing electric lines. Many comments also focused on impacts to existing land use plans, visual and scenic impacts, and health concerns related to increased electric and magnetic field (EMF) emissions. Other common concerns dealt with biological resources, public services and utility issues, traffic and noise.

The specific issues raised during the public scoping process are summarized below according to the following major themes:

- Project Description and Objectives
- Alternatives
- Human Environment Issues
- Natural Environment Issues
- EIR Administrative and Permitting

Project Description and Objectives

The project description and objectives were addressed in several comments from agencies, organizations, and individuals associated with, or living in, the City of Chula Vista. Public comments expressed that SDG&E is piecemealing a larger project, and that the EIR should fully disclose all aspects of the project including an explanation for the long-term uses of the transmission line. It was also stated that SDG&E must disclose the need for the current project as well as identify alternatives for a more permanent solution for relieving the regional congestion outside the proposed transmission corridor. Several comments stated that the proposed project will increase SDG&E's ability to import and export power into California from other more polluted sources with less stringent environmental laws than California, such as Mexico and Arizona, and that the impacts from these other sources should be included in the EIR. Several persons noted that SDG&E's original cost estimate for connecting the OMPPA Transmission Project to the grid at Miguel Substation was approximately \$16 million dollars. Now costs are projected at \$150-200 million. Clarification on this discrepancy was requested.

<u>Alternatives</u>

Many comments from individuals and organizations and a number of government agencies suggested alternatives, including the No Project Alternative, alternative routes, no wires alternative, and an underground alternative through the City of Chula Vista portion of the project. The most frequently discussed alternatives included undergrounding the project through the City of Chula Vista to avoid potential conflicts with bayfront land use plans, the Sweetwater Marsh National Wildlife Refuge, and aesthetics. Some comments suggested moving the lines back to Bay Boulevard, and others suggested an alternative route through rural areas.

Alternatives for a more permanent solution for relieving the regional transmission congestion outside the proposed transmission corridor were suggested, along with an alternative to remove the South Bay Power Plant resulting in no new lines in the Chula Vista Bayfront Master Plan planning area. Several comments suggested alternatives using cleaner and/or renewable power sources, and other comments included repowering the South Bay Power Plant as an alternative.

Human Environment Issues

Nearly all of the public and agency comments raised strong concerns regarding the potential impacts of the OMPPA Transmission Project on the human environment, most often expressing concerns with, conflicts with planned uses, environmental justice issues, and visual impacts. Other concerns dealt with traffic and transportation, utilities and services, recreation, construction impacts, and health risks and safety issues.

Land Use Compatibility and Recreation Impact Issues. Many comments from the public and organizations expressed concern over the OMPPA Transmission Project's consistency with the overall goals of the City of Chula Vista's adopted land uses and development programs including the General Plan (as amended), the Southwest, Bayfront and Midbayfront Redevelopment Plans and the Montgomery Specific Plan. Other comments expressed concern over the project's consistency with the North Embarcadero Visionary Plan. Many of the comments emphasized the sensitive nature and community character of the residential areas adjacent to the OMPPA Transmission Project due to the large number of family homes, children, schools, and recreation facilities in the area. One comment stated that the project would cause unmanaged off-road vehicle area in the permanent ROW adjacent to residential areas.

Visual/Aesthetic Issues. The potential visual and aesthetic impacts of the OMPPA Transmission Project were raised specifically in many comments from residents living in Chula Vista, as well as by staff representing the City of Chula Vista. Caltrans stated that the OMPPA Transmission Project would have potential visual impacts to motorists traveling on state highway facilities including State Route 94 (SR-94), State Route 67 (SR-67), Interstate 5 (I-5), Interstate 805 (I-805) and Interstate 8 (I-8). The County of San Diego recommended that a supporting visual impact study be prepared as part of the EIR to analyze the impacts from proposed new overhead transmission lines, tubular steel poles and the realignment of existing wood poles. It was stated that the proposed project might significantly impact views from established open space/recreational areas, including community parks and the Sweetwater Marsh National Wildlife Refuge. Other comments discussed that running the overhead lines through densely populated areas of Chula Vista will create aesthetic blight due to industrialization of land, and additional poles in the existing transmission ROW.

Public Services and Utilities. Several comments recommended that the EIR analyze impacts to potential disruption of local and regional services provided through construction of underground

utilities, and address potential conflicts with existing underground utilities in the City of San Diego. It was also recommended that the EIR include discussion of the proposed project's affects on future operations of the South Bay Power Plant.

Traffic and Transportation Issues. Caltrans stated that the OMPPA Transmission Project could result in potential impacts to state highway facilities including SR-94, SR-67, I-5, I-805 and I-8. The County of San Diego recommended that the EIR include a Traffic Impact Analysis (TIA), based on all existing and future county roads that will be affected during project construction. It was recommended that the TIA include analysis of displaced parking, impacts to private residence access driveways, temporary closures of bicycle lanes, impacts associated with construction routes and truck volumes, types and sizes, cumulative impacts to study area roads, and verification that the project will comply with the County's Traffic Impact CEQA thresholds, including identification of haul routes to the project area. The City and County of San Diego also commented that a traffic control plan might be required for traffic impacts to roadways during construction.

Air Quality Issues. The San Diego Convention Center Corporation expressed concern that daytime construction delays on Harbor Drive at or near the Convention Center may result in truck and other vehicular traffic at an engine idle, that could affect air quality/pollution. Several comments discussed that the project would import power from "dirty" sources out of state, causing air quality impacts as a result of the project that should be analyzed. Other comments discussed that the project is located adjacent to five elementary schools and one high school, and that the EIR should address air quality impacts to these sensitive receptors.

Noise Issues. Comments requested an acoustical report be prepared analyzing the project's noise impacts compared to the applicable construction and operational noise standards. It was noted that construction noise will occur near residences, recreational uses, hospitals or schools, as well as near the San Diego Convention Center, and should be analyzed, and mitigated if necessary in the EIR.

Electro-Magnetic Effects. Several comments discussed the sensitive nature of the residential areas adjacent to the OMPPA Transmission Project due to the large number of schools, parks, and densely populated neighborhoods and homes, and expressed concern over the health effects of the proposed transmission line and the electro-magnetic effects it would generate.

Safety Hazards and Hazardous Materials. Some comments discussed that the EIR should address potential impacts from contaminated sites in the project area, including roadways and other rights-of-way. Other comments discussed that the project may result in conflicts with emergency response plans or evacuation plans.

Natural Environment Issues

Comments from organizations, individuals, and government agencies addressed issues and concerns with the potential impacts that the OMPPA Transmission Project would have on the natural environment, particularly impacts to plants, wildlife, and habitats, including sensitive areas and the Sweetwater Marsh National Wildlife Refuge. A few comments were provided discussing geology and water quality issues that should be addressed in the EIR.

Geology and Soils Issues. Caltrans stated that the EIR must address impacts to soils and drainage, including increase runoff and modification of existing facilities.

Hydrology and Water Quality Issues. Comments related to hydrology and water quality issues discussed that the EIR should analyze whether the project will substantially alter the existing drainage patterns, resulting in substantial erosion, siltation or flooding, or contribute to runoff water that would exceed existing or planned storm water drainage systems' capacity. It was discussed that EIR should identify County of San Diego mapped hydrologic features, including hydrologic basins, 100-year flood boundaries, surface waters, and groundwater resources. It was also stated that the EIR should analyze whether the project would violate Section 303(d) of the Clean Water Act. The City of San Diego stated that they encourage the use of reclaimed water during construction and irrigation of landscaping.

Biological Issues – Impacts to Plants and Wildlife. Several comments discussed that the project goes through some of the most sensitive habitat areas adjacent in the City of Chula Vista adjacent to San Diego Bay. It was stated that project construction could impact rare, threatened, or endangered species in the project area and potentially interfere with regional wildlife movement and movement corridors. Primary concerns are impacts to the Sweetwater Marsh National Wildlife Refuge, and corridor areas designated as Preserve in the City of Chula Vista's MSCP Subarea Plan. It was requested that the EIR should include an analysis of these impacts. It was also discussed that the EIR should fully analyze potential impacts of above-ground transmission lines on wildlife in the area, including impacts of bird strikes near the Sweetwater National Wildlife Refuge, Pacific Flyway, critical habitats, and foraging behavior of hawks and owls.

It was discussed that a biological report for the EIR needs to be prepared addressing project impacts to: (1) potential disturbances to wetlands, lakes, streams, and/or waters of the U.S.; (2) potential adverse effects on any sensitive natural community or species identified as a candidate, sensitive, or special status species by the CDFG or USFWS; and (3) potential conflicts with provisions of any adopted HCP, NCCP or other approved plan, policies or ordinances.

Cultural and Paleontological Resources Issues. The Bureau of Indian Affairs expressed concern regarding potential effects of the proposed transmission lines to lands held in trust for

Indian Tribes in San Diego County. The Native American Heritage Commission provided the steps that should be taken to assess and mitigate potential effects to archaeological resources and Native American sacred sites and human remains. The County of San Diego provided several comments related to cultural and paleontological resources within unincorporated County lands including recommendations that the EIR address: (1) identification of known or suspected significant cultural resources; (2) evaluation of whether the project will cause a change in the significance of historic or archaeological resources, as defined in State CEQA Guidelines, Section 15064.5; and (3) completion of a field survey for archaeological artifacts and features. The City San Diego provided similar comments, stating that the project facilities will be constructed within the City's Sensitive Historical Resource Overlay Zone, and requesting that the EIR include a cultural resources technical report, that adequately addresses potential impacts to sensitive historical and archaeological resources and provides appropriate mitigation for any impacts.

EIR Administrative and Permitting

A few comments and suggestions were made regarding the schedule of the EIR and General Proceeding schedules, stating that the schedule should be adjusted and expedited to correspond to dates in SDG&E's contract with Calpine. Several requests were made to be included on the distribution list for the EIR, and several comments requested information regarding the cost and funding for the project.

Several agencies provided comments discussing permits and agreements that may be required as part of the project including: Caltrans encroachment permit and traffic control plans; agreements with San Diego County Water Authority for construction within existing easement ROW; County of San Diego grading permits; County of San Diego habitat loss permit, construction permit, and encroachment permits. One of the comments provided a description detailing the applicable agencies, laws, and regulations that must be complied with related to impacts from: (1) waste generated by the project, or; (2) impacts if contaminated soil and groundwater is encountered.

H.1.4 Public Notice of Amended Project Description

On November 18, 2004, SDG&E filed and amendment to their CPCN Application. SDG&E's amended application was filed subsequent to an MOU agreement being reached with the City of Chula Vista regarding the undergrounding of existing and future transmission facilities along the City of Chula Vista Bayfront. Except for modifications along the Chula Vista Bayfront, all other aspects of the OMPPA Transmission Project remain unchanged from the March 2004 PEA and CPCN Application. The CPUC sent out a Public Notice to the same distribution list as described in *Section H.1.1, Notice of Preparation,* notifying federal, state, and local agencies, private organizations, interested groups and the general public of SDG&E's amended project. The

Notice was sent out for a 30-day comment period from November 23 to December 23, 2004. Two comment letters were received from the San Diego Airport Authority and USFWS. The San Diego Airport Authority's letter requested that they receive a copy of the EIR. The USFWS letter provided specific comments regarding the proposed underground segment along the Chula Vista Bayfront and within the Sweetwater Marsh Area, which they requested be considered in the EIR. Specific issues raised included impacts to biological resources, hydrology, water quality as well as cumulative impacts and alternatives.

H.2 Public Notice and Participation

This section summarized the CPUC's program of public notice and participation to maximize agency and public input on the OMPPA Transmission Project. It consisted of three elements as described below.

- 1. Public Notification
- 2. Public Review Period
- 3. EIR Information and Repository Sites

H.2.1 Public Notification

As described in *Section H.1*, the NOP and Public Notice was mailed on July 21, 2004 to the State Clearinghouse and federal, State and local trustee agencies that may be affected by the Proposed Project, and agencies previously requesting notice in writing to the CPUC. The Notice of the Amended Project Description was mailed out on November 22, 2004 to federal, state and local trustee agencies as well as the general public.

A Notice of Release of the Draft EIR will be sent to property owners and occupants on or adjacent to SDG&E's Proposed Project route and evaluated alternative routes at the time the Draft EIR is released. The Notice will include information about how to access the Draft EIR, will identify the Environmentally Superior Alternative(s), and the dates and times and locations of any Informational Workshops, as well as the CPUC's Public Participation Hearings.

H.2.2 Public Review Period

In compliance with California Public Resources Code Section 21091.a and CEQA Guidelines Section 15105.a, the CPUC provides a public review period of 45 days for the Draft EIR.

H.2.3 EIR Information and Repository Sites

Providing copies of documents associated with the Proposed Project in "repository" sites local to the project area is an effective way of making ongoing project information available to concerned citizens. There are seven repository sites listed below where citizens may view the documents and make copies of them. In addition, copies of documents have been made available at the CPUC office in San Francisco. Copies of the Draft EIR will be available to the public at the locations listed below.

- Chula Vista Public Library, Eastlake Branch Library 1120 Eastlake Parkway, Chula Vista, CA 91913
- Chula Vista Public Library, Civic Center Branch 365 F Street, Chula Vista, CA 91910
- Chula Vista Public Library, South Chula Vista Branch 389 Orange Avenue, Chula Vista, CA 91911
- Linda Vista Branch Library
 2160 Ulric Street, San Diego, CA 92111-6628
- National City Public Library
 2001 East 12th Street, National City, CA 91950
- Mission Hills Library
 925 West Washington Street, San Diego, CA 92103
- San Diego Central Library 820 "E" Street, San Diego, CA 92101

Internet Website: The following website will be used to post all public documents during the environmental review process and to announce upcoming public meetings: http://www.dudek.com/cpuc/sdge-omppa-trans-proj/.

I. REPORT PREPARATION

A consultant team of over 20 key technical and administrative personnel headed by Dudek & Associates, Inc. prepared this document under the direction of the CPUC. *Table I-1* below presents the preparers and technical reviewers of this document and their qualifications.

TABLE I-1 EIR PREPARERS				
CALIFORNIA PUBLIC U	TILITIES C	OMMISSION (CPUC) – LEAD AGENCY		
Billie Blanchard, A.I.C.P., Energy Division, CEQA Unit M.S. Urban Planning, B.A. Political Science	26	CPUC Project Manager		
Pam Nataloni, Attorney J.D.	15	CPUC CEQA Legal Support		
	EIR PR	EPARATION		
Dudek & Associates, Inc.				
John Porteous, C.E.P., M.A.	22	Project Manager		
Joe Monaco, A.I.C.P., M.C.P.	17	Senior Planner – Land Use/Recreation/ Community Character		
Myloc Nguyen, M.A.	6	Planner - Land Use/Recreation		
Andrew Garner, M.A.	4	Planner – Traffic, Public Services		
June Collins, A.I.C.P.	26	CEQA Compliance, Land Use, MSCP Consistency		
Anita Hayworth, Ph.D.	25	Task Manager – Biological Resources		
Mike Komula, M.S.	21	Task Manager – Noise		
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I.1 List of Abbreviations and Acronyms

Ambient Air Quality Standards
Acre
Alternating current
Army Corps of Engineers
Average daily trips
Applicant Proposed Measures
Clean Air Act
California Clean Air Act
California Ambient Air Quality Standards
California Independent System Operator
California Air Resources Board
California Coastal Commission
Center City Development Corporation
California Department of Fish and Game
California Department of Health and Services
California Division of Mines and Geology
Council on Environmental Quality
California Environmental Quality Act

CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CLL	Chronic lymphocytic leukemia
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CRHR	
CWA	California Register of Historical Resources Clean Water Act
CWA	Clean water Act
dB	Decibels
DOD	Department of Defense
DOI	Department of Interior
DWR	Department of Water Resources
EIR	Environmental Impact Report
EMF	Electromagnetic fields
EPA	Environmental Protection Agency
ESA	Endangered Species Act
F	Fahrenheit
FAA	Federal Aviation Administration
FCC	Federal Communication Commission
GIS	Geographic Information System
HCP	Habitat Conservation Plan
HSERP	Hazardous Substance Control and Emergency Response Plan
Hz	Hertz
IARC	International Agency for Cancer Research
ICNIRP	International Commission on Non-ionizing Radiation Protection
IEEE	Institute of Electrical and Electronic Engineers
INRMP	Integrated Natural Resource Management Plan
KOPs	Key observation points
kV	Kilovolt
kW	Kilowatts

LCP	Local Coastal Plan
Ldn	Day-Night Average Sound Level
LOS	Level of Service
LRA	Local Reliability Area
M	Magnitude
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
mG	Milligaus
MM	Modified Mercalli
MOU	Memorandum of Understanding
MSCP	Multiple Species Conservation Plan
MSHCP	Multiple Species Habitat Conservation Plan
MVAR	Megavar
MW	Megawatt
MWA	Megavolt-ampere
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Council
NEVP	North Embarcadero Visionary Plan
NHPA	National Historic Preservation Act
NIEHS	National Institution of Environmental Health Sciences
NMFS	National Marine Fisheries Service
NOAA	
	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO _x	Nitrogen oxide
NO ₂	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRHP	National Register of Historic Places
NRPB	National Radiological Protection Board
NSIL	Non-simultaneous import limit
N-1/G-1	In basin generator and transmission
O ₃	Ozone
OMGP	Otay Mesa Generation Project
OMPPA	Otay Mesa Power Purchase Agreement

Pb	Lead
PEA	Proponent's Environmental Assessment
PM_{10}	Particulate matter less than 10 microns in diameter
PPA	Power Purchase Agreement
R	Rulemaking
RAQS	Regional Air Quality Standard
RAS	Remedial Action Schemes
RMR	Reliability Must Run
ROG	Reactive organic gases
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SCAG	Southern California Association of Governments
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SEMARNAP	Secretariat of Environment, Natural Resources, and Fisheries
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SP	Specific Plan
SPCCP	Spill Prevention Control and Countermeasure Plan
SR	State Route
STATCOM	Static Synchronous Compensator
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TMDL	Total Maximum Daily Load
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
VRM	Visual Resource Management
WECC	Western Electricity Coordinating Council
WHO	World Health Organization
WRCC	Western Regional Climatic Center

 $\mu g/m^3$ micrograms per cubic meter μT microTesla