CALIFORNIA PUBLIC
UTILITIES COMMISSION

San Diego Gas & Electric Sycamore-Peñasquitos 230-kV Transmission Line

Post-Construction
Monitoring Report

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ES EXECUTIVE SUMMARY

ES.1 OVERVIEW

CPUC certified the Final Environmental Impact Report (EIR), selected Alternative 5 as the "Environmentally Superior Alternative", and approved the Sycamore-Peñasquitos 230-kilovolt (kV) Transmission Line Project (Project) on October 13, 2016. The Project was constructed between the existing Sycamore Canyon Substation and the existing Peñasquitos Substation between the City of San Diego and the City of Poway in San Diego County (County), California (refer to Figure ES-1 below). The 14.3-mile-long Project transmission line alignment consisted of 11.5 miles of underground and 2.8 miles of overhead transmission line. Construction of the Project began on January 4, 2017 and the transmission line was energized on August 30, 2018.

Figure ES-1 Project Location

Panorama Environmental, Inc. (Panorama) prepared this Post-Construction Monitoring Report to document the compliance process during construction of the Project. This report includes a description of the unique circumstances and lessons learned from construction of 11.5 miles of underground 230-kV transmission line within an urban area. This Post-Construction Monitoring Report includes:

- A summary of Project construction
- A summary of mitigation monitoring and compliance activities that occurred prior to and during construction.
- A discussion of key challenges encountered during construction of the Project, and lessons learned with recommendations for future projects involving high-voltage transmission line installation in roadways.

ES.2 MITIGATION MONITORING AND COMPLIANCE ACTIVITIES

ES.2.1 Monitoring

The monitoring process included SDG&E monitoring of their own compliance activities throughout the duration of construction. The Project required monitoring of simultaneous construction activities in multiple areas by general compliance inspectors and specialty monitors. Specialty monitors consisted of biologists, archaeologists, Native American specialists, paleontologists, acousticians, and Qualified Stormwater Pollution Prevention Plan Practitioners who documented the environmental resources in the work area and verified compliance with the applicant proposed measures (APMs) and mitigation measures (MMs). CPUC provided weekly and semi-weekly monitoring of construction activities throughout the duration of construction to verify SDG&E compliance with all APMs and MMs contained in the EIR. The monitoring process was successful in keeping the project on schedule while ensuring compliance with environmental requirements.

ES.2.2 Reporting and Non-Compliance Incidents

SDG&E prepared weekly compliance monitoring reports to document compliance activities at each work site. CPUC then prepared a weekly summary report, which included the results of both SDG&E and CPUC compliance monitoring.

CPUC and SDG&E reported 14 incidents when Project construction activities did not fully comply with the requirements of the APMs or MMs. The number of reported compliance incidents was low relative to the size and duration of the project. The low number of compliance incidents reflects effective contractor training and communication between CPUC environmental monitoring team, SDG&E Environmental Inspectors, and SDG&E's contractors about the importance of following all project APMs and MMs. SDG&E also quickly responded to and resolved all compliance incidents. The project did not result in any unpermitted impacts on environmental resources.

ES.3 LESSONS LEARNED

ES.3.1 Key Issues

The Project required a substantial amount of construction beneath roadways in urban areas. High voltage transmission lines are typically constructed above ground. The installation of 11.5 miles of underground transmission line presented unique issues that needed to be addressed during construction. Key issues, lessons learned and recommendations for future transmission project planning and construction are presented in Table ES-1 below.

Table ES-1 Key Issues, Lessons Learned, and Recommendations

Issue	Lessons Learned/Recommendations
Fire Training for Construction Personnel	
• Construction occurred in areas with moderate and high fire risk.	• Robust Fire Plans should be developed, implemented, and enforced in areas with a moderate or high fire risk. • Proper training and enforcement of the Fire Prevention Plan resulted in successful containment of a fire during Project construction. • Enforcement of the fire plan includes routinely verifying that fire tools are present on the job site and that workers have received training in use of fire tools.
• Sparks from welding traveled beneath a fire blanket and ignited a fire.	• Contractors should use frame-mounted fire blankets during welding in areas with moderate or high fire risk.
Aesthetic Impacts of Cable Poles	
• The cable pole located near Stonebridge Parkway caused many community complaints including media attention. The cable pole near the highway in a commercial/industrial area received no community complaints.	• Avoid siting cable poles on bluffs or in geographically superior positions in residential areas, when feasible. • Locate cable poles in industrial or commercial areas when possible.
• The community formed a Beautification Committee to address the aesthetic impact of the cable pole.	• The Beautification Committee requested tree planting to address the aesthetic impact of the cable pole and was involved in selecting the trees. • Look for opportunities for natural vegetation or topographic screening of cable poles. • Include tree planting and vegetation screening as part of the aesthetic mitigation; include community feedback in landscape plans when possible.
Trench Plate Safety and Noise	
• Cold-patch asphalt securing the trench plates broke down over time causing traffic hazards and increasing noise.	• Recess trench plates when they will be installed over long distances or for extended periods of time.

Issue	Lessons Learned/Recommendations
• Motorists avoided driving on trench plates and drove too fast.	• Use traffic-calming measures to slow traffic around trench plates and to reduce noise.
• Non-recessed, corrugated trench plates produced noise that caused public complaints.	• Corrugated trench plates provide increased traction and safety due to weather, moisture and high-speed driving and may be needed to ensure vehicle safety.
Timing of Pavement Restriping	
• CPUC received safety complaints about the absence of traffic markings on newly repaired streets.	• Mitigation measures for traffic safety should include a specific timeframe for road restriping after paving is completed. The timeframe should allow reasonable flexibility to obtain local traffic control permits for restriping.
Nighttime Construction	
• SDG&E had restricted daytime work hours in commercial and industrial areas due to traffic impacts.	• Construct underground transmission line segments in commercial and industrial areas at night to minimize traffic impacts. Include the option of nighttime construction for underground transmission line segments in the environmental document.
• Working at night in areas with businesses operating at late hours increased risks to construction workers.	• Increase police presence, number of flaggers, traffic safety markings and extent of lane closure in advance of active work zones when constructing in roads at night.
• SDG&E needed to expedite construction to meet the in-service-date for the Project.	• Constructing multiple segments simultaneously and at nighttime reduced the total construction schedule.
Lack of Access to Reclaimed Water	
• Reclaimed water may not be available at all times and agencies may have restrictions on its use in sensitive habitats/areas.	• Mitigation requiring use of reclaimed water should allow sufficient flexibility for periods or areas or certain activities where reclaimed water cannot be used.
• A Project street-sweeper used potable water which was in violation of a mitigation measure.	• The utility should train contractors prior to the start of the project regarding local regulations related to potable water and other issues or add this to the environmental training program.
Caltrans Encroachment	
• Caltrans denied SDG&E's request to locate the transmission line in a Caltrans bridge cell.	• Underground boring beneath Caltrans facilities can avoid lengthy permitting, but results in additional expense. • Where a Caltrans exception is required, the utility should also explore all other feasible alternatives and submit for permits in parallel. • Tunnel Bore Machine technology is an option for tunneling of underground transmission lines where geotechnical considerations do not allow for drilling.

Issue	Lessons Learned/Recommendations
Induced Voltage Effects on Nearby Utility Lines	
• SDG&E was notified about the presence of an AT&T metallic telecommunication cable in proximity and parallel to the Project line after EIR approval.	• Future projects with underground transmission line alignments should contact telecommunication providers early in the project planning process to verify whether metallic telecommunication lines are present adjacent to the proposed transmission line alignment. • The applicant should obtain all details on the location and construction, including grounding, of any adjacent communication lines. • The CPUC should include mitigation measures for modeling of induced voltage wherever transmission lines are proposed underground in roadways due to the high likelihood of buried metallic pipelines and cables within roadways.
• AT&T was concerned about the efficacy of modeling to predict induced voltage on AT&T's metallic telecommunication cable; the modeling that was used was developed for gas pipelines and had not been tested on telecommunication lines.	• The modeling was tested in the field and the field results demonstrated that modeling is an effective tool for predicting induced voltage on telecommunication facilities.
• Different performance thresholds for induced currents may be required to protect the public versus construction workers.	• A 15-V threshold is appropriate for lines or appurtenances that the public could come in contact with and a 50-V threshold is appropriate for SDG&E workers based on OSHA standards.

ES.4 CONCLUSIONS

SDG&E adequately implemented environmental protection measures, including APMs and MMs identified in the Project EIR, as well as permit conditions, prior to, during, and immediately following construction. All compliance issues that occurred during Project construction were corrected and did not result in any unpermitted impact on environmental resources. Project construction was implemented on schedule and had minimal issues given the proximity to residential areas and size of the Project. The success in meeting environmental commitments and constructing the Project on schedule was due in large part to regular communication between CPUC and SDG&E. The communication process including regular CPUC communication with SDG&E's Public Advisor allowed the CPUC to stay apprised of all issues and ensure that issues were addressed rapidly.

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 Project Overview

On April 7, 2014, San Diego Gas and Electric (SDG&E) submitted to the California Public Utilities Commission (CPUC) Application 14-04-011 seeking a Certificate of Public Convenience and Necessity (CPCN) for its proposed Sycamore-Peñasquitos 230-kilovolt (kV) Transmission Line Project (Project) between the existing Sycamore Canyon Substation and the existing Peñasquitos Substation between the City of San Diego and the City of Poway in San Diego County (County), California.

CPUC certified the Final Environmental Impact Report (EIR) (State Clearinghouse No. 2014081031) and approved Alternative 5, the Environmentally Superior Alternative, on October 13, 2016, in accordance with California Environmental Quality Act (CEQA) Public Resources Code (PRC) § 21080. The approved Project (Alternative 5: Pomerado Road to Miramar Area North Combination Underground/Overhead) is shown in Figure 1.1-1. The approved Project includes 11.5 miles of underground transmission line within City and County of San Diego roads and 2.8 miles of overhead transmission line in SDG&E right-of-way (ROW). The extent of underground transmission line construction within urban areas is a unique aspect of the Project.

1.1.2 Construction

Construction of the Project began on January 4, 2017 and the transmission line was energized on August 30, 2018. Multiple crews worked simultaneously during the construction period to meet the Project schedule.

1.2 REPORT PURPOSE

This report was prepared to summarize SDG&E compliance with the applicant proposed measures (APMs) and mitigation measures (MMs) included in the approved Environmental Impact Report and Mitigation Monitoring and Compliance Reporting Program (MMCRP). This report also includes a summary of unique Project circumstances and lessons learned from the installation of 11.5 miles of underground 230-kV transmission line.

This report has been prepared after Project energization and prior to SDG&E's completion of all final construction and post-construction requirements. This report fulfills the final reporting requirement described in the MMCRP, which requires that a Mitigation Monitoring Summary Report be prepared following construction.

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Figure 1.1-1 Alternative 5: Pomerado Road to Miramar Area North Combination Underground/Overhead

SOURCES: Esri 2015, SDG&E 2015, and Panorama Environmental, Inc. 2016

Scale: 1:50,000

LEGEND

- Alternative 5: Pomerado Road to Miramar Area North Combination Underground/Overhead Alternative (overhead)
- Alternative 5: Pomerado Road to Miramar Area North Combination Underground/Overhead Alternative (underground)
- Substation Boundary
- City Boundary

Miles
0 0.25 0.5 1 1.5 2

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1.3 REPORT ORGANIZATION

This report is organized as follows:

- **Section 1: Introduction.** Includes a summary of the Project and this report.
- **Section 2: Project Construction.** Includes information on the construction, CPUC issued Notices to Proceed, and minor changes to the Project that were required during the construction process.
- **Section 3: Monitoring and Compliance.** Includes a summary of monitoring and compliance activities and SDG&E's compliance with the APMs and MMs.
- **Section 4: Unique Issues and Lessons Learned.** Describes unique issues encountered during underground transmission line installation and lessons that should be considered when planning future underground transmission lines.
- **Section 5: Conclusions and Recommendations.** Includes a summary of the report results and recommendations for future projects.
- **Appendix A: Tracking Tables.** Includes the requirement tracking tables used to record dates SDG&E obtained permits and agency authorizations; submitted mitigation plans; submitted notifications; and submitted focused reports, studies and surveys.
- **Appendices B and C:** Document SDG&E's compliance with each APM and MM prior to and during Project construction.
- **Appendix D:** Includes **a summary of** reports prepared for non-compliance incidents and occurrences.

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2 PROJECT CONSTRUCTION

2.1 CONSTRUCTION PROCESS OVERVIEW

Construction of the Project included both overhead and underground transmission line construction techniques. SDG&E was required to obtain Notice to Proceed (NTP) approval from the CPUC prior to starting work in any area. During construction, SDG&E identified modifications to the Project that were required to construct the Project—these modifications are discussed under Project modifications below. All SDG&E proposed Project modifications were evaluated by the CPUC.

2.2 TRANSMISSION LINE CONSTRUCTION ACTIVITIES

2.2.1 Overhead Transmission Line

Overhead transmission line construction was conducted continuously on the west side of Interstate 15 (I-15) from July 2017 to August 2018 except for November 2017 and June 2018. Construction on the overhead transmission line on the east side of I-15 occurred from July 2017 through December 2017, and March 2018 through August 2018. Overhead transmission line construction activities included installation of transmission poles, installation of guard structures at road crossings, and installation of conductor using helicopters. Representative photos of overhead transmission line construction are provided in Figure 2.2-1 below.

2.2.2 Underground Transmission Line

Underground transmission line construction was conducted throughout the Project construction period. Underground transmission line construction activities included installing duct banks and vaults within roadways, installing the transmission line cable within the duct banks, installing cable poles to transition the overhead transmission line to an underground position, and road repair and resurfacing. Representative photographs of underground construction activities are provided in Figure 2.2-2 below. Representative photos of cable pole construction are provided in Figure 2.2-3 below.

Construction in roadways west of the I-15 freeway was conducted at night to reduce traffic impacts. Construction within all other roads was conducted during reduced work hours (9:30 am to 3:30 pm) in accordance with Project mitigation and City of San Diego traffic permits. SDG&E conducted work in multiple areas simultaneously to meet the California Independent System Operators schedule to have the transmission line in service by September 2018.

Figure 2.2-1 Representative Photos of Overhead Project Construction Activities

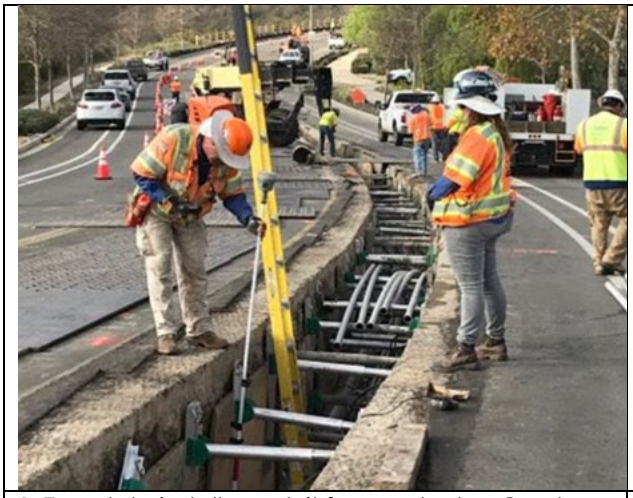
1: Drilling a TSP foundation

2: Assembling a steel pole; the pole was delivered in pieces and assembled on site

3: Guard structures were used to protect roads and other overhead power lines during conductor stringing; a crane is visible in the background conducting work on the steel pole

4: Helicopters were used to string the conductor

Figure 2.2-2 Representative Photos of Underground Project Construction Activities



1: Trench to install conduit for conductor. One lane of traffic is open on the left side of the photo

2: Conductor on reels for installation

3: Welding together trench plates to cover the open trench; fire blankets are used to contain sparks

4: Conductor on racks inside of a vault

Figure 2.2-3 Shrouds Used for Conductor Splicing at Cable Poles

1: Photo of cable pole P05 during conductor splicing

2: Close up photo of P05 scaffolding and electrical work during conductor splicing

2.3 NOTICES TO PROCEED

Prior to construction in any work area, SDG&E obtained CPUC authorization through the Notice to Proceed (NTP) process. SDG&E submitted four requests for NTP. The CPUC verified that the proposed work was consistent with the CPUC Project approval and SDG&E compliance with all APMs and MMs required for NTP approval prior to approving each NTP. Table 2.3-1 provides a summary of Project NTPs.

Table 2.3-1 Notices to Proceed

NTP #	Date Requested	Date Issued	Segment	Description
1	12/5/16	12/29/16	N/A	Mobilize and begin operation of staging yards
2	1/3/17	2/07/17	Segment B	Construct the underground portion from Sycamore Substation to Structure P03 and from Structure P05 to Structure CC MM CP
3	2/3/17	2/27/17	Segment A Segment C	Mobilize and begin overhead transmission line and substation construction
4	9/27/17	9/28/17	Segment B	Conduct one geotechnical boring within the I-15 Option 2 Crossing temporary workspace footprint

2.4 PROJECT MODIFICATIONS

2.4.1 Minor Project Refinements

Minor Project Refinements (MPRs) consist of minor deviations from the approved Project that do not trigger additional permit requirements, do not increase the severity of an impact or create a new impact, and are within the geographic scope analyzed in the EIR. SDG&E requested CPUC approval for sixteen MPRs immediately prior to, and during construction of the Project. One request for MPR was denied because the work area included in the request is located outside of the geographic scope considered in the EIR. The majority of MPRs included addition of small temporary work areas (<1 acre) for Project construction. MPR #10 included a modification to the Project to install the transmission line under I-15. MPR #10 is discussed in further detail in Section 4.1.7 below. Table 2.4-1 lists the requested Minor Project Refinements, their locations, and a description of the change.

Table 2.4-1 Minor Project Refinements

MPR Request	Date Submitted	Date Issued/Status	Description
#1	12/06/16	1/11/17	Additional space for underground 230-kV getaway from Sycamore Substation to Structure P03
#2	1/17/17	1/24/17	Realignment of the 230-kV underground transmission line from Miramar Road north on Black Mountain Road and west on Activity Road
#3	3/06/17	3/08/17	Provides temporary power to the SDG&E trailer at the Stonebridge Staging Yard through the existing power box located outside of the existing Project boundary
#4	4/18/17	4/20/17	Modifies the approved 2.61-acre Vulcan Mine Yard location approximately 884 feet to the west to an approximately 1.71-acre paved area

MPR Request	Date Submitted	Date Issued/Status	Description
#5	7/10/17	7/11/17	Establishes staging yards along southern perimeter of Pomerado Road and temporary work spaces north of P05 and P06
#6	8/03/17	8/04/17	Establishes staging yards along southern and northern perimeters of Pomerado Road
#7	8/25/17	8/28/17	Establishes a staging yard at the southwest corner of the intersection of Pomerado Road and Avenue of Nations (previously approved in TEWS #1), and extends the temporary work space surrounding Structure E40
#8	9/12/17	Denied	Adds temporary work areas around 16 poles and 14 guard structures south of Carroll Canyon Road and east of Interstate 805 to retention an existing transmission line. The MPR was denied because the activity is outside of the geographic scope of analysis in the EIR. SDG&E will need to file a Petition for Modification with the CPUC to obtain approval for the activity.
#9	10/06/17	10/11/17	Adds a paved, developed area off Crestmar Point for use as a staging area for vehicles and construction equipment
#10	11/29/17	11/29/17	Authorizes a newly identified underground route option for the crossing of Interstate-15, using a tunnel bore machine to install the 230-kV line, because Caltrans denied the request to install the line on a bridge crossing I-15
#11	11/22/17	11/29/17	Adds approximately 0.13 acre of temporary work space to accommodate the installation of the 138-kV and 230-kV trench packages north of Sycamore Canyon Substation
#12	1/30/18	1/30/18	Authorizes approximately 0.96 acre of additional temporary workspace located along Kearny Mesa Road and west of Interstate 15 for staging vehicles, equipment, and materials necessary for installing the 230-kV line under Interstate-15
#13	2/01/18	2/05/18	Authorizes the installation of five guy wire anchors within an existing dirt access road between Structures P05 and P06 to stabilize and support Structure P05 during trenching and retaining wall construction activities
#14	3/29/18	3/30/18	Authorizes an approximately 0.44 acre of additional temporary workspace located just northwest of Structure CC MM CP
#15	6/12/18	6/15/18	Authorizes the installation of stormwater management features by Structure CC MM CP
#16	6/25/18	6/25/18	Authorizes the repair of the access road to Sycamore Canyon Substation, including slope repairs at two proposed locations and widening the access road at one location north of the Sycamore Canyon Substation

2.4.2 Temporary Extra Work Spaces

Temporary Extra Work Spaces consist of additional temporary construction areas that are needed to construct the Project and meet the following criteria:

- The space was a preexisting developed area to be used for a period of up to 60 days.
- The TEWS was located in an area with no sensitive resources or land uses onsite or within proximity of the proposed work space such that they may be significantly impacted by the work.
- SDG&E had the permission of the applicable landowner (e.g., municipality or private) to use the work space.
- Use of the TEWS did not result in any new significant environmental impacts.

The CPUC approved use of five Temporary Extra Work Spaces during construction of the Project. A summary of the approved Temporary Extra Work Spaces is provided in Table 2.4-2 below.

Table 2.4-2 Temporary Extra Work Space Requests

TEWS Request	Date Submitted	Date Issued	Description
#1	6/29/17	7/05/17	Additional staging area located at the southwest corner of the intersection of Pomerado Road and Avenue of Nations
#2	07/19/17	7/19/17	Addition to approved Temporary Work Space on Pomerado Road
#3	9/02/17	9/04/17	New location for temporary guard Structure 06 in a paved parking lot at the intersection of Lusk Boulevard and Wateridge Circle
#4	12/13/17	12/14/17	Temporary Work Space for a helicopter landing zone located within an asphalt-covered parking lot at 6925 Lusk Boulevard
#5	12/27/17	12/29/17	Temporary Work Space to mobilize and stage a large crane used to lift and install a vault located at station 676+00 on Stonebridge Parkway

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3 MITIGATION MONITORING AND COMPLIANCE

3.1 OVERVIEW

This section summarizes the activities conducted by SDG&E to comply with Project APMs and MMs prior to and during construction. Non-compliance and safety incidents are also discussed as well as the methods that were implemented to address the compliance incidents.

3.2 PRE-CONSTRUCTION MITIGATION COMPLIANCE

3.2.1 Mitigation Plans

SDG&E submitted pre-construction plans to the CPUC and reviewing agencies (e.g., USFWS, CDFW, and FAA) per the requirements of the APMs and MMs. Pre-construction plans included:

- Burrowing Owl Monitoring and Mitigation Plan
- Congested Area Plan
- Construction Transportation Management Plan
- Dust Control Plan
- Fire Prevention Plan
- Geotechnical Investigation
- Habitat Restoration Plan
- Hazardous Substance Control and Emergency Response Plan
- Scour Evaluation Plan
- Safety and Environmental Awareness Program
- Stormwater Pollution Prevention Plan
- Weed Control Plan
- AC Induced Current and Touch Studies (overhead and underground line segments)

The CPUC reviewed all plans to verify compliance with the requirements and performance standards in the MMs. The CPUC provided comments to SDG&E on the draft plans and SDG&E revised the plans to the acceptance of the CPUC and other reviewing agencies. Approved plans are available on the CPUC's website: http://www.cpuc.ca.gov/Environment/info/panoramaenv/Sycamore_Penasquitos/Plans.html

3.2.2 Pre-Construction Surveys

SDG&E conducted pre-construction surveys for the following resources:

- Bat surveys (February and May 2017)
- Pre-activity surveys in accordance with SDG&E's Natural Communities Conservation Plan (June, July, and August 2017)
- Soil and Groundwater Testing
- Pre-Construction Road Condition Assessment

The pre-construction surveys met all APM and MM requirements. All nest survey reports and nest buffer reduction requests were submitted to the CPUC for verification in compliance with the mitigation. Nest survey reports and buffer reduction requests are available on the CPUC's website:
http://www.cpuc.ca.gov/Environment/info/panoramaenv/Sycamore_Penasquitos/NBRR.html

3.2.3 Specialty Monitor Approval and Contractor Training

CPUC approval for specialty monitors, including biologists, archaeologists, and paleontologists, was required by APMs BIO-2, CUL-1, CUL-6 and MMs Biology-1c, Biology-1d, Biology-3, Biology-5, Biology-7, Biology-8, Biology-9, Biology-10, Cultural Resources-1, Hydrology-1, Hydrology-4, and Paleontology-1. CPUC verified that 89 specialty monitors met the qualification criteria in mitigation measures prior to and during construction. SDG&E also provided Safety and Environmental Awareness Program training to all contractors working on the site prior to and during construction. A total of 1,957 contractors received Safety and Environmental Awareness Training prior to and during the construction period. The general contractor training also included training on unexploded ordnance and procedures due to the potential to encounter unexploded ordnance within the Project area. Construction contractors were also trained on fire prevention methods in accordance with SDG&E's Fire Prevention Plan.

3.2.4 Other Permits and Approvals

SDG&E obtained permits and approvals from the following agencies prior to construction:

- City of San Diego Public Utilities Department
- City of San Diego Development Services Department
- Caltrans
- County of San Diego Department of Public Works

SDG&E provided all agency permits and approvals to the CPUC for record keeping. Traffic control permits were issued on a regular basis throughout construction because each traffic control segment required a separate permit from the City or County depending on jurisdiction for the roadway.

3.3 CONSTRUCTION MONITORING AND COMPLIANCE ACTIVITIES

3.3.1 Monitoring

3.3.1.1 SDG&E Mitigation Monitoring

SDG&E Environmental Inspectors monitored construction activities 5 to 6 days per week from January 4, 2017 through August 30, 2018. One or more SDG&E Environmental Inspectors monitored construction each day and performed pre-construction and ongoing construction clearances as required by APMs and MMs. SDG&E specialty monitors (e.g., cultural, paleontological, Native American specialist, acoustician, and Qualified Stormwater Pollution Prevention Plan Practitioner) were present as needed and required by applicable APMs and MMs (see Section 3.2.3 above regarding specialty contractor approval). The Project required a large number of specialty monitors due to the sensitivity of resources in the area and the potential to encounter cultural or paleontological resources when excavating the underground transmission line.

3.3.1.2 CPUC Mitigation Monitoring

CPUC Environmental Monitors conducted weekly and semi-weekly site inspections throughout the construction process to verify implementation of all APMs and MMs. Any potential compliance issues observed by the CPUC Environmental Monitors were documented in the CPUC's environmental monitoring report and reported to SDG&E to address the issue.

3.3.2 Reporting

3.3.2.1 SDG&E Daily Compliance Reports

SDG&E Environmental Inspectors and specialty monitors prepared daily compliance and inspection reports each day that monitoring took place. The daily reports included construction, compliance, and monitoring activities. Multiple daily reports were generated when more than one SDG&E monitor was on site performing independent monitoring. Daily reports were made available to CPUC via the SDG&E Sharepoint portal.

3.3.2.2 SDG&E Weekly Compliance Reports

The SDG&E compliance team summarized daily reports in a weekly summary report that highlighted construction and compliance activities, and any compliance issues or public complaints. Reports were submitted to the CPUC weekly during construction. SDG&E will continue to submit weekly reports to the CPUC until site restoration activities are completed.

3.3.2.3 CPUC Monitoring Inspection Reports

CPUC documented field conditions with photographs and PanoFACTS, a web-based reporting tool. CPUC Environmental Monitors prepared daily monitoring inspection reports for each site visit. Inspection reports captured summaries of observed construction and compliance activities and included photographs of inspected areas. Any issues with compliance were documented and reported to the SDG&E compliance team.

3.3.2.4 CPUC Weekly Summary Reports

The CPUC prepared weekly reports to summarize construction activities, compliance, and complaints. All CPUC weekly reports are available to the public on the CPUC website: http://www.cpuc.ca.gov/Environment/info/panoramaenv/Sycamore_Penasquitos/Plans.html

3.4 COMPLIANCE INCIDENTS AND PUBLIC COMPLAINTS

3.4.1 Environmental Compliance Incidents

SDG&E Environmental Inspectors and CPUC Environmental Monitors were responsible for reporting any incidents where SDG&E or their contractors did not comply with the requirements of the Project-approved APMs, MMs, or permit conditions. A total of 14 compliance incidents were reported during construction and the majority of these incidents (10 of 14) were minor problems where resources were not put at risk, as shown in Table 3.4-1 below. The CPUC discussed all incidents with SDG&E and defined approaches to bring the Project into compliance with the APMs and MMs. SDG&E also reported 17 other worker health and safety or hazard risks (other occurrences) that did not violate any APM or MM. These were noted and discussed with SDG&E to ensure the risk to workers was properly resolved. Details of all environmental compliance incidents are provided in Appendix D.

Table 3.4-1 Total Incidents and Other Occurrences

Type	Total	Definition
Incidents		
Level 1: Minor Problem	10	*Out of compliance (low to moderate severity)* – An event or observation that slightly deviates from Project requirements but does not put a resource at unpermitted risk.
Level 2: Compliance Deviation	2	*Out of compliance (moderate to high severity)* – An event or observation that deviates from Project requirements and puts a resource at risk but is corrected without impacting the resource.
Level 3: Non-Compliance	2	*Out of compliance (high severity)* – An event or observation that violates Project requirements and impacts a resource. Repeated Compliance Deviations left unaddressed may also rise to a Level 3 Incident.
Total	14	
Other Occurrences		
Health and Safety	14	These events included traffic safety incidents or hazards for SDG&E workers. The events did not violate any APM or MM requirements. SDG&E provided CPUC with memoranda describing these events and their corrective actions.
Hazard	3	
Total	31	

3.4.2 Public Complaints

The Project was located within proximity to thousands of residents. SDG&E assigned a full-time public affairs officer in anticipation of receiving many complaints about the Project due to the Project's proximity to residential communities. The public affairs officer sent regular construction update emails to the public, which kept the public informed about the Project schedule and process. A total of 40 complaints were received by SDG&E and CPUC during the construction phase of the Project. Table 3.4-2 indicates the complaints received by type. SDG&E's public affairs officer responded to all complaints that were received by SDG&E. The CPUC also received inquiries and complaints about the Project. The CPUC responded to all inquiries and complaints that were received by the CPUC.

Table 3.4-2 Complaints Received by SDG&E and CPUC During Project Construction

Complaint Type	Total Received
Owner of Driving Range Yard can't legally lease land to SDG&E	1
Property owner wasn't notified of approval of Alternative 5 route	1
Property owner was unhappy with approval of Alternative 5 route	1
Noise from vehicles travelling over trench plates	17
Condition of Carroll Canyon Road	1
Private vehicle being towed	1
Water being shut off temporarily during construction	1
Traffic delays on Stonebridge Parkway	7
Lack of pavement markings	3
Guard structures and aesthetic impacts of the structures	5
Repaving Pomerado Road	2
Total	**40**

3.4.3 Frequency of Non-Compliance Incidents and Public Complaints

The number of on-site Project personnel peaked in August, September, and October 2017 with 4,905 workers in August, 4,271 in September, and 5,231 in October, suggesting that peak construction activity occurred at that time. Figure 3.4-1 shows the number of weekly on-site construction and compliance personnel. The majority of public complaints were filed at times of increased construction personnel and activity in September and October 2017 as shown in Figure 3.4-2. There does not appear to be any direct relationship between construction activity and compliance incidents due to the low overall number of incidents throughout the construction process.

Figure 3.4-1 Number of Weekly On-Site Construction and Compliance Personnel

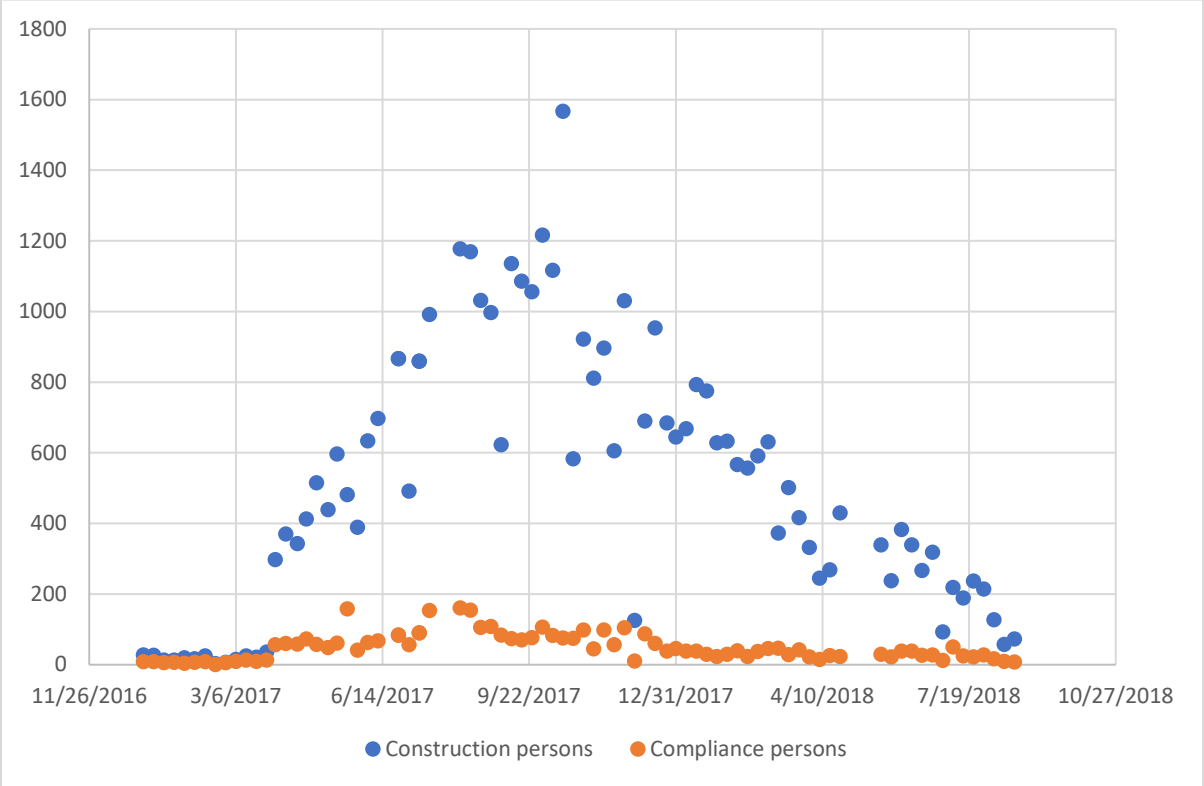
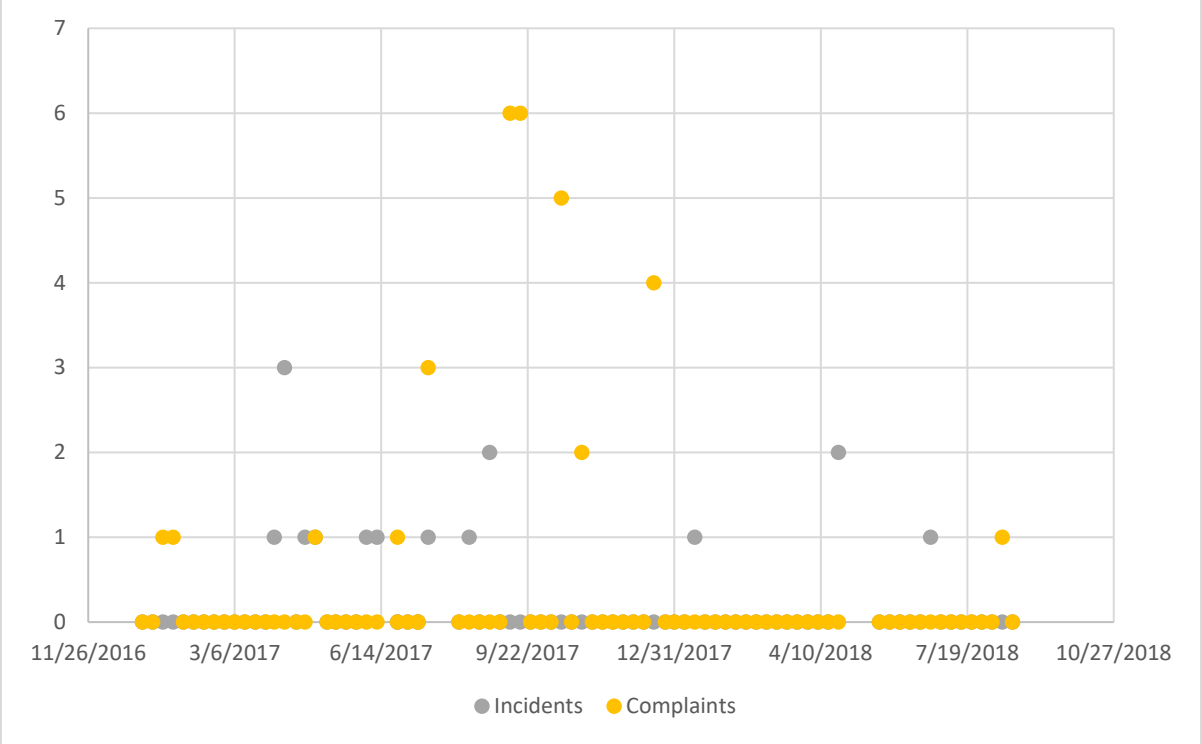


Figure 3.4-2 Weekly Complaints, Incidents and Other Occurrences



3.4.4 Common Compliance and Safety Incidents and Methods of Resolution

The majority of compliance and safety incidents reported by CPUC and SDG&E were due to improper contractor compliance with the Fire Prevention Plan, work outside of approved areas or work hours, and traffic safety incidents. The common compliance and safety incidents and the methods for incident resolution are discussed in further detail below.

3.4.4.1 Fire Safety

Fire safety is a major concern to the community of San Diego due to the history of fire in the region. SDG&E also has a history with starting a fire during construction of the Sunrise Powerlink Project. SDG&E has increased its fire safety protocols and fire management procedures in response to the Sunrise Powerlink Project. SDG&E's Fire Prevention Plan requires that all contractor vehicles within the Project work area contain fire prevention tools. SDG&E also provided fire prevention training to workers so that they would be able to use their fire prevention tools to stop a fire from spreading if one started during construction. For the first few months, Project construction occurred primarily in urban, industrial and/or commercial areas where fire risk was low. The contractor responsible for constructing the underground segment did not provide sufficient equipment for each vehicle to be supplied as required by the Plan. Once enough equipment was supplied, the crew did not keep the equipment readily accessible. Rapid crew turnover resulted in new crew not being trained in fire equipment use and a general lack of awareness of the importance of implementing the Fire Plan. Consequently, there were five violations of the Fire Prevention Plan. As noted, SDG&E's non-compliance with the Fire Prevention Plan was elevated to a Level 3 incident. After CPUC elevated the incident, SDG&E implemented the following corrective actions:

- Additional field training on the correct use of fire equipment was provided
- A third-party fire monitor was engaged
- All personnel were required to attend a supplemental Safety and Environmental Awareness Program training and display a new hard-hat sticker
- A Safety/Environmental Stand down of all crews pending a dedicated 1-hour re-training of the Fire Prevention Plan requirements
- A verification that all vehicles, equipment and work sites had proper fire tools was undertaken by each foreman (or appropriate person) each night before work could begin
- Penalties were imposed for individual workers (e.g. sent home for set period without pay) by the construction contractor if not found in compliance
- If a violation of the Fire Prevention Plan was observed by any party, an immediate shut down of all work was mandated by SDG&E until such time the contractor could demonstrate full compliance with all Plan requirements

3.4.4.2 Work Outside of Approved Areas and Hours

SDG&E reported one instance of working outside of permitted hours due to the work crew needing extra time to secure a work site for safety. SDG&E reported four instances of working outside of approved areas, primarily due to lack of communication between supervisors and the construction crew. Work outside of approved hours or approved work areas violated

Project requirements and all unauthorized work was recorded as Level 1 incidents. The incidents were addressed through increased communication and training with the crew regarding work limit restrictions.

3.4.4.3 Traffic Safety

SDG&E reported seven traffic safety incidents during construction. Table 3.4-3 below lists the traffic incidents that occurred. The traffic safety incidents were a function of Project construction within roads with active traffic flow around the work area for 11.5 miles. The Project location within roadways resulted in increased potential for traffic to impact worker safety. Traffic safety was addressed through traffic controls, but the potential impact on worker safety could not be completely avoided.

Table 3.4-3 Traffic Safety Incidents

Date	Time	Location	Incident
04/19/17	11:15 pm	Outside of Driving Range Yard	Delivery truck driver struck a vehicle outside the yard while backing a truck with a trailer out of the Yard.
05/03/17	9:15 pm	7598 Trade Street	Delivery truck entering 7-Up facility struck bollards protecting SDG&E electrical transformer.
05/18/17	12:30 am	Trade Street	Civilian ignored traffic control flagger's instruction to stop and drove pickup into the open trench.
07/06/17	9:45 pm	Carroll Canyon Road	Three motorcyclists ignored traffic control flaggers, entered a closed traffic control area adjacent to an open trench and rode down the sidewalk striking an employee.
07/20/17	9:05 pm	Miralani Drive	A traffic control flagger was struck by a vehicle driven by a member of the public.
08/03/17	11:20 am	Pomerado Road	One vehicle suddenly stopped, causing a chain reaction collision involving five vehicles. No injuries were reported.
03/01/18	10:35 pm	Miramar Road	A traffic accident involving four vehicles occurred in the eastbound lanes of Miramar Road. All vehicles were operated by members of the public. There were no reported injuries.

4 ISSUES AND RECOMMENDATIONS

4.1 SUMMARY OF PROJECT ISSUES

The Project involved installation of 11.5 miles of underground 230-kV transmission line. High voltage transmission lines are typically constructed above ground. The long extent of underground transmission line construction in suburban and industrial areas was a unique attribute of the Project. The Project was also on a fast-track schedule to meet the California Independent System Operator in-service date and to ensure grid reliability after retirement of San Onofre Nuclear Generating Station. The Project circumstances required ingenuity to effectively resolve each situation and meet the Project schedule. Key issues that were encountered during construction of the Project, lessons learned, and recommendations for future projects are described below.

4.2 FIRE TRAINING FOR CONSTRUCTION PERSONNEL

4.2.1 Issue

Construction of the underground transmission line involved welding in proximity to wildlands where there is a high risk of wildfire. SDG&E prepared a Fire Prevention Plan that includes contractor training and requires all contractors to carry fire prevention equipment in their vehicles. SDG&E's Fire Prevention Plan was developed in response to past wildfires and SDG&E's experience during construction of previous projects including Sunrise Powerlink Project, East County Substation Project, and South Bay Relocation Project. The CPUC and SDG&E enforced the Fire Prevention Plan through routine inspections of contractor vehicles to ensure fire prevention tools were on site.

A small grass fire was started during construction of the Project on Pomerado Road. The fire started when sparks from welding blew underneath a fire blanket, igniting the grass adjacent to the road. The fire was rapidly contained by SDG&E contractors. The successful containment of the fire was a direct result of SDG&E's fire prevention training and the availability and use of on-site fire control tools. SDG&E implemented new procedures for welding after the fire. The new procedure required mounting of fire blankets on frames to preventing sparks from escaping the work area.

4.2.2 Lessons Learned and Recommendations

SDG&E has developed advanced fire prevention methods in response to past experience with fire. Fire prevention is a key issue in California, particularly in response to recent fires caused

by power lines. The CPUC found that consistent inspection for fire tools on all project sites and review of procedures with contractors to contain fires was effective in responding to fire during construction. Frame-mounted fire blankets were also effective in containing fires within the work area.

The following are recommendations for future transmission and power line construction in areas with moderate or high fire risk:

- Robust Fire Plans should be developed, implemented, and enforced in areas with a moderate or high fire risk.
- Environmental monitors, safety representatives and inspectors should consistently inspect for the presence of fire tools on project sites.
- Contractors should receive training in fire containment and fire safety training should be conducted on a routine basis so that all contractors who are working with tools that could cause a fire are trained in fire safety and containment procedures.
- A fire safety hardhat sticker should be used to indicate that contractors have been given fire safety training.
- Frame-mounted fire blankets should be used during welding to prevent sparks from igniting a wildfire.
- The CPUC should hold a workshop with investor-owned utilities to develop consistent fire prevention best management practices for construction.

4.3 AESTHETIC IMPACTS OF CABLE POLES

4.3.1 Issue

The cable poles that are used to transition overhead transmission lines to underground are taller and broader than standard tubular steel poles. The cable pole located near Stonebridge Parkway is 159.5 feet tall and located at the top of a small hill. The cable pole near Stonebridge Parkway is highly visible from neighboring residential streets. Community members complained about the cable pole located behind their subdivision off Stonebridge Parkway and the cable pole gained media attention due to public complaints. SDG&E facilitated meetings with the community group and SDG&E's arborist to discuss potential tree planting as a visual buffer. SDG&E provided funding to plant trees on the hillside and along Stonebridge Parkway near the cable pole, providing a visual buffer and improving community relations.

Cable poles differ from standard overhead transmission poles because they are bulkier and taller than other types of transmission poles. The increased bulk and height of the pole results in an increased potential for aesthetic impacts. There was a large degree of contrast in community response to the two Project cable poles. The cable pole in the residential community received a lot of attention and resulted in formation of a beautification committee to address the aesthetic impact. The cable pole at the western end of the Project was located in a commercial area and

was largely screened by topography. There was no community response to the western cable pole.

4.3.2 Lessons Learned and Recommendations

The CPUC found that effective siting of cable poles in areas that lack sensitive viewer groups can avoid or reduce community complaints about aesthetic impacts of cable poles. The CPUC also learned that coordination with the utilities' Public Advisor and presence at community meetings to respond to the issue after Project construction was effective in helping to address community complaints.

The following are recommendations for siting cable poles for future projects that involve underground transmission lines:

- Locate cable poles in industrial or commercial areas when possible.
- Look for opportunities for natural vegetation or topographic screening of cable poles.
- Avoid siting cable poles on bluffs or in geographically superior positions in residential areas, when feasible.

4.4 TRAFFIC SAFETY AND NOISE

4.4.1 Trench Plate Safety and Noise Considerations

4.4.1.1 Issues

The underground transmission line construction required extensive use of trench plates to cover the open trench for the conduit installation. The mitigation measures and City of San Diego traffic permit allowed for limited work periods in roadways to reduce congestion. SDG&E needed to use trench plates to cover the open work at the end of each work day and reopen traffic on the roadway.

CPUC Environmental Monitors observed motorists avoiding driving on the trench plates by swerving around the trench plates, and driving on the road shoulders. The cold-patch asphalt used to secure the plates in place broke down rapidly, leaving small rocks thrown up into traffic by passing vehicles. The uneven and broken asphalt also created a safety issue by causing drivers to swerve to avoid the flying gravel.

Over time the trench plates began to move, increasing the noise from vehicles passing over the plates. There were several noise complaints received due to vehicles traveling at night over corrugated trench plates covering work areas. Vehicle speed was also a significant factor in the amount of noise that was produced from trench plates. Vehicles traveling at higher speed produced more noise when traveling over trench plates.

Recessed trench plates did not cause safety or noise issues because the plates were more secure, and the asphalt edges did not break down and create loose gravel. The recessed trench plates had less noise impacts than the cold-patched trench plates.

4.4.1.2 Lessons Learned and Recommendations

The following are key lessons learned from use of trench plates during construction:

- The public used unsafe driving practices to avoid driving over trench plates.
- Cold-patch asphalt used to secure trench plates broke down over time creating traffic hazards and increasing noise levels.
- Increased traffic speed resulted in greater noise levels when vehicles traveled over trench plates.
- Non-recessed, corrugated trench plates produced noise that caused public complaints. Corrugated trench plates provide increased traction and safety due to weather, moisture and high-speed driving and may be needed to ensure vehicle safety.

The use of recessed trench plates is recommended on projects involving long stretches of construction near residential areas or in heavily trafficked roads. Recessed trench plates minimized noise impacts on the community and did not appear to break down as quickly as the asphalt around standard trench plates. Implementation of traffic calming measures is also recommended around trench plates to reduce vehicle speeds and potential traffic safety impacts.

4.4.2 Timing of Pavement Restriping

4.4.2.1 Issue

There was a several weeks delay between repaving the road over the underground transmission line and adding lane striping to the repaved roadway. The delay was due to the time required to obtain permits for restriping the road from the City of San Diego. The lack of road markings on construction-impacted roads caused vehicles to travel outside of the designated travel lanes, resulting in potential traffic safety impacts. Pomerado Road is a well-travelled road that is very dark at night, with few street lights. CPUC and SDG&E received two safety complaints due to missing lane markings on Pomerado Road. SDG&E quickly added lane markings in response to the complaints.

4.4.2.2 Lessons Learned and Recommendations

Because the Project mitigation did not specify the amount of time between the patching/ paving of road segments and adding lane striping, there were substantial delays in restriping the road. The lack of lane striping created a potential traffic safety issue.

In the future, it is recommended that project mitigation measures specify the timeframe for road restriping after paving is completed for projects that involve road repaving. The timeframe should allow reasonable flexibility to obtain local traffic control permits for restriping.

4.4.3 Nighttime and Simultaneous Construction

4.4.3.1 Issues

The underground transmission line alignment was located in heavily-trafficked roads serving commercial and industrial areas, residential areas, and schools. MM Traffic-6 prohibited lane closures between 6:00 and 9:30 am and between 3:30 and 6:30 pm to minimize traffic impacts. SDG&E needed to obtain traffic control permits from the City of San Diego for construction of all Project segments requiring traffic controls. The City of San Diego traffic permit required construction at night for the western portion of the Project in an industrial and commercial area. SDG&E was able to reduce traffic impacts through nighttime construction.

The Project was on a fast-track schedule for energization. The target energization date was set by the California Independent System Operator to ensure electrical reliability after retirement of San Onofre Nuclear Generating Station and to address policy requirements for retirement of once-through cooling at power plants in San Diego. The construction timeframe was expedited from initial estimates due to construction of multiple Project segments simultaneously and use of nighttime construction.

The use of nighttime construction resulted in increased traffic safety incidents because of the increased presence of inebriated vehicle and motorcycle drivers at night. Inebriated vehicle and motorcycle drivers ignored flaggers, drove into flaggers, did not observe traffic safety markings, drove on the sidewalks, and drove into the trench.

4.4.3.2 Lessons Learned and Recommendations

The CPUC learned that the City may require a large amount of construction at night for projects that involve construction in heavily trafficked roads. Night-time construction should always be evaluated during preparation of the environmental document to include flexibility in construction methods. While nighttime construction alleviated the traffic impact, it resulted in unanticipated impacts on worker safety due to increased presence of drunk drivers and people driving into the work area. Increased police presence, increased flaggers, increased traffic control distances and traffic safety markings are recommended for projects that involve construction in roads at night.

The CPUC also found that construction of underground transmission lines can be expedited by constructing multiple segments simultaneously and using nighttime construction to allow for extended work hours in areas with high traffic volumes where daytime work hours were severely limited. The simultaneous construction of the underground transmission line resulted in project construction in a shorter time period than was initially estimated.

4.5 LACK OF ACCESS TO RECLAIMED WATER

4.5.1 Issue

MM Utilities-1 required the use of non-potable water for construction activities. The availability and accessibility of reclaimed water was an issue during construction. A compliance-level issue

was recorded when potable water was used in a street sweeper. As a result, the construction contractor's street sweeper drivers were trained by the City of San Diego and the street sweeper was enrolled in the City of San Diego Recycled Water Tanker Truck Program.

4.5.2 Lessons Learned and Recommendations

The CPUC found that reclaimed water may not be available at all times. The CPUC modified Mitigation Measure Utilities-1 during the proceeding to allow additional flexibility for certain periods or circumstances when reclaimed water use would not be possible. This flexibility was important due to restrictions on the use of reclaimed water in some areas or for certain activities. It is also recommended that projects involving use of reclaimed water during construction include training on the use of reclaimed water as part of the environmental training program.

4.6 CALTRANS ENCROACHMENT

4.6.1 Issue

The Project EIR included three options for crossing the I-15 highway:

1. Four poles (one cable pole and one interset pole on each side of the highway) to transition the transmission line from underground to overhead position and cross I-15.
2. Two cable poles to transition the transmission line to an overhead position and across I-15.
3. Installing the transmission line in a vacant bridge cell in the Pomerado Road/ Miramar Road Bridge that spans over I-15.

After CPUC approval of Alternative 5 and adoption of the EIR, SDG&E ruled out Options 1 and 2 due to the following conflicts:

- The community was opposed to the aesthetic impacts of the poles in their neighborhood.
- SDG&E had difficulty obtaining land rights for the underground and overhead transmission line segment outside of the existing ROW.
- The Caltrans highway crossing would have required poles nearly 200 feet tall and Caltrans did not want such tall poles in their ROW.
- The height of the poles and the conductor span would conflict with MCAS Miramar flight paths.

SDG&E initially proposed to cross the I-15 highway with the transmission line in a vacant bridge cell (Option 3). The Caltrans Encroachment Permit Manual prohibits installation of conductors above 69-kV within Caltrans bridge cells. There were several reasons why installation of the 230-kV transmission line within the vacant cell in the bridge appeared to be viable and was pursued by SDG&E starting in 2016. Caltrans has permitted the following exceptions to power lines within Caltrans bridges (City of San Diego, 2016):

- Pacific Coast Highway Caltrans bridge 230-kV installation, installed 2007
- Harbor Drive City bridge 230-kV installation, installed 2007
- Highway 94 Caltrans bridge 138-kV installation, installed 2008
- Alpine Boulevard County bridge 230-kV installation, installed 2012
- LADWP Ballona Creek Caltrans bridge 230-kV installation, permitted 2015

Preliminary meetings that occurred in July 2016 between SDG&E and Caltrans indicated that installation of the 230-kV line would be possible if certain conditions were met associated with induction thresholds, liability, magnetic fields, construction methodology, and ongoing monitoring.

SDG&E conducted technical studies to address specific Caltrans concerns prior to submitting the encroachment permit application. The studies conducted by SDG&E used four methods to mitigate or eliminate voltage induction on bridge members that would result from electric and magnetic fields generated by operation of the 230-kV line. An additional corrosion study was provided that concluded that the proposed Project would not result in extraneous induction nor pose corrosion or hydrogen embrittlement risk. Caltrans requested the confirmation of the studies by independent university professors, which was completed within two months. Caltrans also requested that SDG&E provide a means to monitor and record voltages, induction, and corrosion at any given time in the bridge, and execute a liability agreement in case any damage occurs to the bridge. SDG&E submitted a formal encroachment permit application in early October 2017 with all the requested information. Caltrans ultimately denied the permit in August 2017.

After Caltrans denial of the encroachment permit for the transmission line within the Caltrans bridge crossing the I-15 highway, SDG&E conducted studies and preliminary engineering for alternative underground options to span the highway. SDG&E evaluated horizontal direction drilling (HDD) and boring options to span the highway. Technical issues with each option included ampacity concerns, geotechnical considerations and safety challenges:

- Depths beyond 15 feet measured from surface to the top of the cable package would not meet the required ampacity as set forth by the CAISO. The 15-foot tolerance would be exceeded with both a boring and HDD alternative.
- Jack and bore operations are generally limited to 300-400 feet. Additionally, a jack and bore utilizing ferrous material would result in further significant ampacity derating of the cable.
- Given the length of the undercrossing at approximately 1000 feet, it was first assumed that an HDD would be the more practical approach.
- A geotechnical investigation to a depth of 75 feet was conducted on October 3, 2017 at the end of Kearny Mesa Road, adjacent to the I-15 southbound off-ramp. This location is representative of the I-15 crossing at Pomerado Road. The type of soils predominantly found are considered Stadium Conglomerate. This type of soil is composed of sandy, silty gravels, very dense, with cobbles. The three independent contractors consulted about the I-15 crossing design expressed

concerns about the high risk associated with an HDD through sandy soils with high cobble content. During the HDD process, the drilling moves forward, pulled back, replaced with a larger diameter auger and the process continues until the appropriate diameter hole is achieved. During the operation, there is a significant risk of the cavity collapsing when the auger is pulled back due to the instability of surrounding soils.

Given these considerations, an alternative method utilizing a Tunnel Bore Machine (TBM) with pipe jacking in various alignments was studied. The advantage with the Tunnel Bore Machine with this particular installation is that there is an excavator and operator at the head of the bore as opposed to a drill head. The soils and cobble could then be excavated and extracted ahead of the concrete sections being jacked into place, thus mitigating risks of collapsing soils. The challenge that the operation poses is that none of the alignments resulted in depths under 20 feet due to steep grades and the presence of existing facilities. SDG&E then consulted with the cable manufacturer to resolve the cable derating issue due to the extraneous depths of the crossing. Cable ampacity studies were then conducted based on the design of the bore, and determined that the ampacity may be maintained by upsizing the cable to the largest industry standard along with a special technique of enamel coated wires.

SDG&E determined that the TBM boring was a feasible method to cross the highway because it met the CAISO ampacity requirements and would be feasible within the known geotechnical constraints. SDG&E needed to complete additional air analyses and technical studies to evaluate the TBM alternative because it was not evaluated in the EIR. SDG&E determined that the TBM method was the best alternative for crossing the I-15 highway and submitted an MPR (MPR #10) to CPUC to conduct the boring. CPUC reviewed the request and found that the modification would not have more or greater effects than the proposed Project. The delays caused by the Caltrans approval process created risks for Project energization schedule. The TBM method was a substantial construction undertaking, but allowed the Project construction to proceed on schedule.

4.6.2 Lessons Learned and Recommendations

The following lessons learned can be applied to future CPUC projects that require obtaining a Caltrans encroachment permit:

- The Caltrans exception process is very time-consuming and should be avoided wherever possible. Where a Caltrans exception is required, the utility should also explore all other feasible alternatives and submit for permits in parallel.
- TBM technology is an option for tunneling of underground transmission lines where geotechnical considerations do not allow for drilling.

4.7 INDUCED VOLTAGE EFFECTS ON PARALLEL UTILITY LINES

4.7.1 Issue

In preparation of the EIR, the CPUC submitted data requests to SDG&E to obtain information on utilities located in proximity to the proposed Project for all alternative routes evaluated in the EIR. In response to the requests, SDG&E did not identify any metallic AT&T telecommunication lines in proximity to the proposed Project or underground alternatives during the EIR preparation.

The CPUC evaluated the impact of shock hazards on the public and workers in the EIR. The CPUC found that the underground transmission line would result in a significant impact on workers or the public if it produced a shock hazard that exceeded industry thresholds. Two mitigation measures were included in the EIR to address potential impacts on adjacent buried utilities: Mitigation Measure Hazards-7 and Mitigation Measure Utilities-4. MM Hazards-7 required SDG&E to identify any underground metallic objects that could potentially present a shock hazard to the public due to induced currents or voltages. Mitigation Measure Utilities-4 required SDG&E to coordinate with the owner of any utility that is impacted by the Alternative 5 alignment. SDG&E's December 8, 2016 AC Interference Study did not identify AT&T's metallic telecommunication lines in proximity to the proposed Project.

On November 8, 2017, AT&T requested help from the CPUC regarding concerns over induced voltage from the Project transmission line on an existing adjacent AT&T metallic telecommunication cable. AT&T discussed induced voltages that were experienced by AT&T technicians after energization of the underground segment of Sunrise Powerlink in Alpine. AT&T discussed with the CPUC that they had implemented mitigation to address the high voltage in Alpine and were sensitive to the issue due to the experience in Alpine. AT&T began discussing their metallic telecommunication cable adjacent to the Project with SDG&E in late 2016, and provided information relating to the location of metallic facilities in February 2017. SDG&E did not inform the CPUC staff about AT&T's telecommunication cable prior to AT&T separately contacting the CPUC in November 2017. ARK Engineering & Technical Services, Inc. was contracted by NV5 on behalf of SDG&E to investigate the AC touch voltage potential on AT&T's communication cable. The study ARK prepared presented the predicted AC induction potential during projected steady-state load conditions of the 230-kV circuit based on information provided by NV5, AT&T and SDG&E. ARK used a ground-shielding model to predict potential induced voltage based on AT&T's grounding standards. ARK conducted three rounds of study revisions before the CPUC was contacted by AT&T to resolve the issue.

SDG&E's February 22, 2018, AC Interference Study for the AT&T telecommunication line indicated that induced voltage on AT&T's facilities could reach 41 volts. Mitigation Measure Hazards-7 specified a maximum touch voltage threshold of 15 volts. Instead, an OSHA voltage threshold of 50 Volts was used in SDG&E's study to evaluate whether the shock hazard would require mitigation. The OSHA NFPA 70E voltage safety threshold is a requirement SDG&E must meet for its workers' protection. The 15-Volt threshold used in the EIR and specified in

MM Hazards-7 was required to be protective of the public. SDG&E did not propose to implement measures to protect the public (inclusive of AT&T workers) from hazardous shocks. SDG&E's study recommended monitoring the actual voltage level and only installing mitigation if the observed voltage levels exceeded the OHSA threshold of 50 Volts. Neither the 50-Volt threshold, nor the approach to only monitor observed voltages were in compliance with MM Hazards-7.

The CPUC notified SDG&E on May 2, 2018 that SDG&E had not complied with the requirements of MM Hazards-7 because the model submitted by SDG&E predicted that the induced voltage would exceed 15 Volts; therefore, additional mitigation efforts were required prior to energization of the transmission line to protect the public from hazardous shocks.

SDG&E provided an updated model in June 2018, which reflected additional information that SDG&E received from AT&T regarding grounding on AT&T's facilities including maps provided by AT&T regarding the location of grounding. SDG&E, ARK, AT&T and CPUC met to discuss the revised model results, the model parameters, and define data needed by AT&T to verify the model parameters reflected AT&T's facilities. SDG&E revised the model in July 2018 to test the sensitivity of the model to grounding resistance and provided a revised report which reflected that the induced voltage on AT&T's facilities would not exceed 15 volts while the Project operates at maximum steady-state conditions.

CPUC found that SDG&E complied with requirements of MM Hazards-7 on July 31, 2018 because the modeled voltage did not exceed the 15 Volt threshold specified in MM Hazards-7 and the model produced by SDG&E was developed using the best technology and information available. AT&T raised concerns about the model efficacy because the model that was used was developed to evaluate induced voltage on gas pipelines and had not been developed or tested specifically for telecommunications facilities. Because the model had not been tested on telecommunication facilities, the CPUC requested that SDG&E and AT&T cooperatively conduct a field test of the induced voltage on AT&T's facilities and provide the results of the field test to the CPUC within 30 days after test completion. AT&T performed safety testing at three sections on their metallic telecommunication cable prior to energization on August 27 and August 28, 2018, and following energization on September 20 and September 25, 2018, to verify the accuracy of the modeling in predicting induced voltages on telecommunication cables. Monitoring results and subsequent verification of the ARK model determined that the maximum induced voltage at the three tested AT&T sections ranged from 5.2 to 7.6 volts, confirming that the SDG&E modeling was correct.

4.7.2 Lessons Learned and Recommendations

The modeling that was applied by ARK to predict the induced voltage on AT&T's facility had never been applied to telecommunications cables. The CPUC found that modeling is an

effective tool for evaluating potential induced voltage on nearby telecommunication lines. Based on the experience with this project it is recommended that:

- Utilities verify with third party telecommunications companies whether metallic telecommunication lines are present adjacent to the project transmission line alignment during planning and engineering of any underground transmission lines.
- The CPUC should include mitigation measures for modeling of induced voltage wherever transmission lines are proposed underground in roadways due to the high likelihood of buried metallic pipelines and cables within roadways.
- Modeling of induced voltage is also recommended when there is a concern about induced voltage impacts on adjacent utility lines.
- Different performance thresholds for induced currents may be required to protect the public versus construction workers. A 15-V threshold is appropriate for lines or appurtenances that the public could come in contact with and a 50-V threshold is appropriate for SDG&E workers based on OSHA standards.

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5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

Construction of the Project began January 4, 2017 and was completed after approximately 20 months of construction. The Project is now in the restoration phase. Environmental protection measures, including APMs and MMs identified in the Project EIR, as well as permit conditions, were implemented prior to, during, and immediately following construction. SDG&E's environmental compliance for the Project was fully documented by teams of SDG&E Environmental Inspectors and CPUC Environmental Monitors. The compliance process reflected effective communication between the CPUC, SDG&E, and their contractors on the environmental commitments that were required as part of the Project.

Construction of the 11.5 miles of transmission line in urban and residential roadways presented unique challenges. Moderate and high fire risk required elevated fire prevention precautions. Large cable poles resulted in aesthetic impacts. Trench plates created safety and noise issues. The fast-track schedule required efficient construction scheduling. Removal of pavement markings and nighttime construction created safety issues. Lack of access to reclaimed water resulted in a Project compliance issue. CalTrans encroachment and AT&T induced voltage issues required additional studies. These key issues provided opportunities for lessons learned and recommendations that can be applied to future underground transmission line projects.

5.2 COMPLIANCE INCIDENTS

A total of 14 compliance incidents were reported when SDG&E did not fully implement the requirements of the APMs or MMs during Project construction. Compliance issues were related to the following:

- Lack of fire tools
- Working outside of permitted work areas and hours
- Potable water used in street sweepers instead of reclaimed water
- Workers on site without proper Safety and Environmental Awareness Program training
- Presence of trash at the work site

The majority of these issues were documented by SDG&E Environmental Inspectors. All compliance issues were addressed immediately by SDG&E to avoid any unpermitted impacts on the environment.

5.3 RECOMMENDATIONS

The key issues that were encountered during construction of the Project, the lessons learned from them, and recommendations for future projects are summarized in Table 5.3-1 below.

Table 5.3-1 Key Issues, Lessons Learned and Recommendations

Issue	Lessons Learned/Recommendations
Fire Training for Construction Personnel	
• Construction occurred in areas with moderate and high fire risk.	• Robust Fire Plans should be developed, implemented, and enforced in areas with a moderate or high fire risk. • Proper training and enforcement of the Fire Prevention Plan resulted in successful containment of a fire during Project construction. • Enforcement of the fire plan includes routinely verifying that fire tools are present on the job site and that workers have received training in use of fire tools.
• Sparks from welding traveled beneath a fire blanket and ignited a fire.	• Contractors should use frame-mounted fire blankets during welding in areas with moderate or high fire risk.
Aesthetic Impacts of Cable Poles	
• The cable pole located near Stonebridge Parkway caused many community complaints including media attention. The cable pole near the highway in a commercial/industrial area received no community complaints.	• Avoid siting cable poles on bluffs or in geographically superior positions in residential areas, when feasible. • Locate cable poles in industrial or commercial areas when possible.
• The community formed a Beautification Committee to address the aesthetic impact of the cable pole.	• The Beautification Committee requested tree planting to address the aesthetic impact of the cable pole and was involved in selecting the trees. • Look for opportunities for natural vegetation or topographic screening of cable poles. • Include tree planting and vegetation screening as part of the aesthetic mitigation; include community feedback in landscape plans when possible.
Trench Plate Safety and Noise	
• Cold-patch asphalt securing the trench plates broke down over time causing traffic hazards and increasing noise.	• Recess trench plates when they will be installed over long distances or for extended periods of time.
• Motorists avoided driving on trench plates and drove too fast.	• Use traffic-calming measures to slow traffic around trench plates and to reduce noise.
• Non-recessed, corrugated trench plates produced noise that caused public complaints.	• Corrugated trench plates provide increased traction and safety due to weather, moisture and high-speed driving and may be needed to ensure vehicle safety.

Issue	Lessons Learned/Recommendations
Timing of Pavement Restriping	
• CPUC received safety complaints about the absence of traffic markings on newly repaired streets.	• Mitigation measures for traffic safety should include a specific timeframe for road restriping after paving is completed. The timeframe should allow reasonable flexibility to obtain local traffic control permits for restriping.
Nighttime Construction	
• SDG&E had restricted daytime work hours in commercial and industrial areas due to traffic impacts.	• Construct underground transmission line segments in commercial and industrial areas at night to minimize traffic impacts. Include the option of nighttime construction for underground transmission line segments in the environmental document.
• Working at night in areas with businesses operating at late hours increased risks to construction workers.	• Increase police presence, number of flaggers, traffic safety markings and extent of lane closure in advance of active work zones when constructing in roads at night.
• SDG&E needed to expedite construction to meet the in-service-date for the Project.	• Constructing multiple segments simultaneously and at nighttime reduced the total construction schedule.
Lack of Access to Reclaimed Water	
• Reclaimed water may not be available at all times and agencies may have restrictions on its use in sensitive habitats/areas.	• Mitigation requiring use of reclaimed water should allow sufficient flexibility for periods or areas or certain activities where reclaimed water cannot be used.
• A Project street-sweeper used potable water which was in violation of a mitigation measure.	• The utility should train contractors prior to the start of the project regarding local regulations related to potable water and other issues or add this to the environmental training program.
Caltrans Encroachment	
• Caltrans denied SDG&E's request to locate the transmission line in a Caltrans bridge cell.	• Underground boring beneath Caltrans facilities can avoid lengthy permitting, but results in additional expense. • Where a Caltrans exception is required, the utility should also explore all other feasible alternatives and submit for permits in parallel. • Tunnel Bore Machine technology is an option for tunneling of underground transmission lines where geotechnical considerations do not allow for drilling.

Issue	Lessons Learned/Recommendations
Induced Voltage Effects on Nearby Utility Lines	
• SDG&E was notified about the presence of an AT&T metallic telecommunication cable in proximity and parallel to the Project line after EIR approval.	• Future projects with underground transmission line alignments should contact telecommunication providers early in the project planning process to verify whether metallic telecommunication lines are present adjacent to the proposed transmission line alignment. • The applicant should obtain all details on the location and construction, including grounding, of any adjacent communication lines. • The CPUC should include mitigation measures for modeling of induced voltage wherever transmission lines are proposed underground in roadways due to the high likelihood of buried metallic pipelines and cables within roadways.
• AT&T was concerned about the efficacy of modeling to predict induced voltage on AT&T's metallic telecommunication cable; the modeling that was used was developed for gas pipelines and had not been tested on telecommunication lines.	• The modeling was tested in the field and the field results demonstrated that modeling is an effective tool for predicting induced voltage on telecommunication facilities.
• Different performance thresholds for induced currents may be required to protect the public versus construction workers.	• A 15-V threshold is appropriate for lines or appurtenances that the public could come in contact with and a 50-V threshold is appropriate for SDG&E workers based on OSHA standards.

5.4 CONCLUSION

The Project was constructed on schedule and the number of environmental compliance issues was minimal for the size and scale of the Project. The overall success of the environmental compliance program was due in large part to regular communication between CPUC and SDG&E, and communication between SDG&E and its contractors about the importance of environmental compliance. The communication procedures for the project were defined by CPUC and SDG&E in the Mitigation Monitoring Compliance and Reporting Program (MMCRP) prior to construction. Communication for the project included:

- Weekly calls between SDG&E and CPUC to discuss the project, construction status, any environmental compliance issues that had been encountered, and methods to resolve those issues.
- Establishment of a public complaint log and weekly calls with the SDG&E public affairs representative for the project to discuss any complaints that had been reported and SDG&E's response to those complaints.

- The CPUC Environmental Monitors conducted weekly and semi-weekly inspections of the project site and communicated regularly with the SDG&E Environmental Inspectors to ensure proper implementation of all APMs and MMs.

Project safety procedures were successfully implemented. No lost time accidents occurred during construction of the Project. SDG&E held regular safety meetings at each work site and safety procedures were enforced on all job sites. Regular discussion about safety on the job site and use of proper safety procedures was effective in preventing safety incidents.

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6 REFERENCES

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APPENDIX A REQUIREMENT TRACKING TABLES

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REQUIREMENT TRACKING TABLES

Table A-1 Report, Permit and Agency Authorization Tracking Table

Permit/Authorization	Purpose	Associated Requirements	Timing and Submittal Requirements[1]	Required Agency Review[2]		Status
				Submitted	Approved	
Federal and State Agencies						
SDG&E Subregional Natural Community Conservation Plan[3] (NCCP)	The SDG&E Subregional NCCP includes a Federal Endangered Species Act (ESA) Section 10(A) permit and a California ESA Section 2081 Memorandum of Understanding for incidental take with an Implementation Agreement with the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), respectively, for the management and conservation of multiple species and their associated habitats. *Federal Endangered Species Act, Section 10(A); California Endangered Species Act, Section 2081; California NCCP Act; and California Native Plant Protection Act*	APM BIO-2	*If SDG&E obtains additional take permits or NCCP authorizations, SDG&E shall provide CPUC with copies of permits or other authorizations for incidental take of species, including amendments to the NCCP and supporting documentation (i.e., correspondence with USFWS and CDFW).	***USFWS:** N/A ***CDFW:** N/A ***CPUC:** N/A	***USFWS:** N/A ***CDFW:** N/A ***CPUC:** N/A	**Complete** NCCP 12/15/95 Document
Compensatory mitigation for impacts to vegetation communities	SDG&E Subregional NCCP, Sections 7.2 and 7.4	MM Biology-6 *Habitat Restoration Plan for Vegetation Communities (refer to Table C-2)	SDG&E shall submit a Habitat Acquisition Plan **at least 120 days prior to** any ground disturbing activities for CPUC, USFWS, CDFW, and MCAS Miramar (as applicable) review and approval.	**USFWS:** N/A **CDFW:** N/A **MCAS Miramar:** N/A **CPUC:** Memo: 01/9/17 HRP: Submitted 03/01/17 05/17/17 06/09/17	**USFWS:** N/A **CDFW:** N/A **MCAS Miramar:** N/A **CPUC: HRP approved 0**6/15/17	**Complete** SDG&E submitted evidence of available habitat mitigation lands for impacts associated with the project. HRP approved 06/15/17
CPUC Permit to Construct (PTC)	CPUC authorization to construct the project *CPUC General Order 131-D*	All project APMs, MMs, and plans	SDG&E was required to obtain approval for a PTC from CPUC prior to constructing the project, as approved by CPUC.	**CPUC:** N/A	**CPUC:** N/A	**Complete** The Commission approved the project (Alternative 5) on 10/16/16

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Permit/Authorization	Purpose	Associated Requirements	Timing and Submittal Requirements[1]	Required Agency Review[2]		Status
				Submitted	Approved	
State Water Resources Control Board (SWRCB) Construction General Permit CAS000002	Disturbance of more than 1 acre of land during construction *Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ* SDG&E shall prepare a Stormwater Pollution Prevention Plan in compliance with the State Water Resources Control Board (SWRCB) Construction General Permit CAS000002 (Order No. 2012-0006-DWQ) and City of San Diego Stormwater Standards Manual (2012). The SWPPP shall address erosion and sedimentation control, groundwater dewatering procedures, hazardous materials identification, handling, disposal and emergency spill procedures, and any other best management procedures necessary to prevent sediment or contaminants from entering Los Peñasquitos Creek.	MM Hydrology-1 Stormwater Pollution and Prevention Plan (SWPPP)	SDG&E shall submit the SWPPP to SWRCB and CPUC for review and approval **no less than 30 days prior to** construction. The CPUC and City of San Diego approve the SWPPP **prior to** construction.	**CPUC:** SWPPP Submitted 11/21/16	**CPUC:** SWPPP approved 12/16/16	**Complete** Construction General Permit Effective 07/17/12 SWPPP approved 12/16/16
General NPDES Permit for Discharges from Utility Vaults & Underground Structures to Surface Waters	Discharge of water from utility vaults during operation and maintenance *NPDES No. CAG990002; Order No. 2014-0174-DWQ*	None	SDG&E shall submit dewatering permits to CPUC **prior to** discharging water from excavations or utility vaults.	**SWRCB:** **CPUC:**	**SWRCB:** **CPUC:**	**Complete** Permit 03-1389 Granted 08-22-17
General NPDES Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities	Discharge of water associated with construction and land disturbance activities *NPDES No. CAS 000002; Order No. 2012-006-DWQ*	None	None	**CPUC:** N/A	**CPUC:** N/A	**Complete** Effective 07/17/12
Encroachment Permit	Crossing of I-15	None	SDG&E shall acquire an encroachment permit prior to beginning boring activities under I-15.	**Caltrans:** Encroachment Permit submitted 06/22/17 **CPUC:** N/A	**Caltrans:** Encroachment Permit approved 01/29/18 **CPUC:** N/A	**Complete** Permit granted 01-29-18
Local Agencies						
Structural Permit	Construction of walls	None	SDG&E shall acquire a structural permit from the City prior to constructing retaining walls.	**City of San Diego:** 1) CC MM CP 07/10/17 **CPUC:**1) CC MM CP 10/30/17	**City of San Diego:** 1) CC MM CP 07/10/17 **CPUC:** N/A	**Complete**
Grading/Driveway Permits	Proposed grading and sidewalk alterations;	None	SDG&E shall submit grading permits to CPUC prior to grading.	**City of San Diego:** **CPUC:**	**City of San Diego:** **CPUC:**	**N/A**
Recycled Water Application	Use of recycled water in San Diego County	None	SDG&E shall submit an authorized recycled water application to CPUC **prior to** using recycled water for the project.	**Water District:** **CPUC:** Memo submitted 10/14/16	**San Diego County, Department of Environmental Health:** **CPUC:**10/24/16	**Complete**

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Permit/Authorization	Purpose	Associated Requirements	Timing and Submittal Requirements[1]	Required Agency Review[2]		Status
				Submitted	Approved	

Notes:

[1] All project permits and authorizations provided by other agencies must be submitted to CPUC. CPUC reserves the right to review and comment on the accuracy and adequacy of project permits and authorizations, if necessary.

[2] The SDG&E NCCP and HCP for QCB are described as plans; however, these plans act as incidental take permits and are therefore included with permits in Table C-1.

* Requirements marked with an asterisk are only applicable under specified conditions.

+ Not all APMs and MMs identify submittal periods; however, where identified CPUC requires SDG&E to submit materials prior to applicable activities to provide sufficient time to review the materials.

Table A-2 Plan Tracking Table

Plan	Requirement Sources	Timing and Submittal Requirements[1]	Required Agency Review[1,2] Submitted	Approved	Status
Required Prior to Construction Activities					
Burrowing Owl Monitoring and Mitigation Plan	MM Biology-8	SDG&E shall be required to obtain approval from CDFW on the BOMMP prior to construction. SDG&E shall provide the approved BOMMP to the CPUC **30 days prior to** construction.	**CDFW:** 11/11/16 **CPUC:**11/17/16 PSR 02/03/17	**CDFW:** 11/17/16 **CPUC:**12/13/16	**Complete**
Congested Area Plan	MM Traffic-2	Helicopter contractors shall provide the CPUC with all required approvals, documents, and conditions of work **prior to** conducting helicopter activities for the project.+	**CPUC:** 10/25/17 **FAA:** 10/02/17	**CPUC:** N/A **FAA:** 10/12/17 10/20/17	**Complete**
Construction Transportation Management Plan	MM Traffic-1	SDG&E shall submit the Plan to CPUC for review and Approval **at least 30 days prior to** construction.	**CPUC:**11/23/16 12/24/16	**CPUC:** 01/03/17	**Complete**
Dust Control Management Plan	MM Air-3	SDG&E shall submit the Plan to CPUC for review and comment **no less than 30 days prior to** construction.	**CPUC:** 10/14/16 11/08/14 11/09/16	**CPUC:**11/09/16	**Complete**
Environmental Training Program (SEAP) (including all training materials)	MM Biology-1b	SDG&E shall submit a copy of the training and training materials to CPUC for review and approval **at least 30 days prior to** the start of construction.	**CPUC:** 12/05/16	**CPUC:**12/09/16	**Complete**
Facilities Color Treatment Plan	MM Aesthetics-3	SDG&E shall submit the Plan **at least 90 days prior to** ordering the first structure to be color treated.	**CPUC:** 02/23/17 04/21/17 05/04/17	**CPUC:** 05/04/17	**Complete**
Fire Prevention Plan	MM Fire-1	SDG&E shall submit the Plan to CPUC for approval **at least 30 days prior to** construction.	**CPUC:** 10/14/16 11/01/16 11/02/16	**CPUC:** 11/08/16 (requested one more change)	**Complete**
Habitat Restoration Plan **Mitigation Parcels/Habitat Management Plans.**	MM Biology-6	SDG&E shall prepare a Habitat Restoration Plan that shall be subject to approval by the CPUC, USFWS, CDFW, City of San Diego (for restoration within City of San Diego MHPA), and MCAS Miramar (for restoration on MCAS Miramar) **prior to** habitat impacts.+ All off-site mitigation parcels shall be approved by the CPUC, USFWS, CDFW and MCAS Miramar (as applicable) and must be acquired, or their acquisition must be assured. To demonstrate that such parcels will be acquired, SDG&E shall submit a Habitat Acquisition Plan **at least 120 days prior** to any ground disturbing activities for CPUC, USFWS, CDFW, and MCAS Miramar (as applicable) review and approval.	**CDFW:** 03/01/17 **USFS:** 03/01/17 **MCAS Miramar:** 03/06/17 **City of San Diego:** 03/01/17 **CPUC:** Memo: 01/09/17 HRP: 03/01/17 05/17/17 06/09/17	**CDFW:** 06/15/17 **USFS:** 06/29/17 **MCAS Miramar:** 03/20/17 **City of San Diego:** 06/15/17 **CPUC:** 06/15/17	**Complete**
Hazardous Substance Control and Emergency Response Plan (HSCERP)	MM Hazards-3	The HSCERP shall be submitted to CPUC for recordkeeping **at least 30 days prior to** project construction.	**CPUC:** 10/14/16 11/01/16 11/02/16	**CPUC:**11/08/16	**Complete**

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Plan	Requirement Sources	Timing and Submittal Requirements[1]	Required Agency Review[1,2]		Status
			Submitted	Approved	
Highway Closure Plans	MM Traffic-5	SDG&E shall submit closure plans to Caltrans **at least 30 days prior to** crossings of SR-56 and I-15 and provide approved encroachment permits and closure plan to the CPUC **prior to** construction.+	**Caltrans:** **CPUC:**	**Caltrans:** **CPUC:**	**N/A**
Landscape Plan[2]	MM Aesthetics-4	SDG&E shall submit the Plan to CPUC for approval **at least 60 days prior to** construction of the cable pole(s).	**CPUC:** 02/23/17 04/21/17	**CPUC:** 05/04/17	**Complete**
Scour Evaluation Plan	MM Hydrology-5	SDG&E shall submit the Plan for burying the transmission line below the 100-year scour depth, or otherwise protecting the line from erosion, to CPUC for review and approval **prior to** construction.+	**CPUC:** 11/17/16	**CPUC:**12/1/16	**Complete**
Site Specific Blasting Plan	MM Hazards-1	SDG&E shall submit the Plan(s) to the City of San Diego for review and approval **before blasting** at each site. City-approved Blasting Plans shall be submitted to the CPUC for review **prior to blasting** at each site.+	**City of San Diego:** **CPUC:**	**City of San Diego:** **CPUC:**	**N/A**
Soils and Ground-Water Testing Plan	MM Hazards-5	SDG&E shall submit the Plan to the CPUC **at least 60 days prior to** construction. Testing results shall be submitted to the CPUC **at least 30 days prior to** construction.	**Plan** **CPUC:** 11/11/16 **Test Results** **CPUC:** N/A	**Plan** **CPUC:** 11/21/16 **Test Results** **CPUC:** N/A	**Complete** See Hazards-5 Memo submitted 11/11/16
Spill Prevention, Control and Countermeasure (SPCC) Plan	MM Hazards-2	SDG&E shall submit a SPCC Plan to the CPUC for sites that are subject to the SPCC program.+	**CPUC:** N/A	**CPUC:** N/A	**N/A**
Stormwater Pollution Prevention Plan (SWPPP)	MM Hydrology-1	SDG&E shall submit the Plan to the CPUC and the City of San Diego for review and approval **prior to** construction.+	**City of San Diego:** Declined **CPUC:** 11/21/16	**City of San Diego:** Declined **CPUC:**12/16/16	**Complete**
Vegetation Plan[3]	MM Aesthetics-2	SDG&E shall submit a retaining wall design and vegetation plan to the CPUC for review and approval.+	**CPUC:** 02/23/17 04/21/17 08/08/18	**CPUC:** Final revised Plan approved 09/07/18	**Complete**
Weed Control Plan	MM Biology-3	SDG&E shall submit the Plan to MCAS Miramar and the City of San Diego **prior to implementation** of any weed control activity. The weed control plan will be prepared to the approval of the CPUC.+	**MCAS Miramar:** **City of San Diego:** **CPUC:** 11/11/16	**MCAS Miramar: City of San Diego:** **CPUC:**12/14/16	**Complete**
Required Following Specific Impacts or Findings					
Reseeding after Fires Plan*	MM Biology-11	SDG&E shall provide a written report documenting all reseeding activities to the CPUC.+	**CPUC:** N/A	**CPUC:** N/A	**N/A**

Notes:

[1] All project Plans required by other agencies must be submitted to CPUC. CPUC reserves the right to review and comment on the accuracy and adequacy of all project Plans, if necessary.

[2] Combined with Facilities Color, Treatment, and Screening Plan.

[3] Vegetation Plan is superseded by the Landscape Plan.

* Requirements marked with an asterisk are only applicable under specified conditions.

+ Not all APMs and MMs identify submittal periods; however, where identified CPUC requires SDG&E to submit materials prior to applicable activities to provide sufficient time to review the materials.

Table A-3 Notification Tracking Table

Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1] Submitted	Required Agency Review[1] Approved	Status
Required Prior to any Construction Activities						
Special-status plant removal for fire protection	USFWS, CDFW	MM Biology 1d	In the event that a special-status plant species is located within the area required to be cleared for fire protection purposes, SDG&E shall notify the USFWS (for ESA-listed plants), and CDFW (for CESA-listed plants), in writing, of the plant's identity and location and of the proposed activity, which will result in a take of such plant. Notification shall occur **ten working days prior to** such activity, during which time USFWS or CDFW may remove such plant(s). If neither USFWS nor CDFW have removed such plant(s) with the ten working days following the notice, SDG&E may proceed to complete its fire clearing and cause a take of such plant(s) consistent with SDG&E's take coverage for the ESA- or CESA-listed plants.	**USFWS:** N/A **CDFW:** N/A	**USFWS:** N/A **CDFW:** N/A	**N/A**
Fire prevention and response	MCAS Miramar Fire Department, City of San Diego	MM Fire-1 MM Fire-2 MM Fire-3	All fires shall be reported to the fire agencies with jurisdiction in the area **immediately** upon discovery of the ignition. SDG&E and/or its contractors shall contact and coordinate with the MCAS Miramar Fire Department and applicable local fire departments (i.e., City of San Diego and City of Poway) **prior to construction** to determine the appropriate amounts of fire equipment to be carried on construction vehicles and to coordinate fire suppression activities. SDG&E shall submit verification of its consultation with MCAS Miramar and local fire departments to CPUC **at least 30 days prior to** construction. **Prior to construction**, SDG&E and its contractors shall contact and coordinate with the MCAS Miramar Fire Department and applicable local fire departments (i.e., City of San Diego and City of Poway) to determine the appropriate minimum capacity and locations for the water tanks if water trucks are not used. SDG&E shall submit verification of its consultation with MCAS Miramar and local fire departments to CPUC **at least 30 days prior to** construction.	**CPUC:** Notice of small grass fire 9/14/17 **City of San Diego:** Notice of small grass fire 9/14/17 **MCAS Miramar Fire Department:**	**CPUC:** N/A **City of San Diego:** N/A **MCAS Miramar Fire Department**	**Complete** **Complete**
Final project design.	CPUC	MM Geology-1 MM Geology-2 MM Geology-3	SDG&E shall submit final project design drawings to CPUC for the project that comply with MM Geology-1, MM Geology-2, and MM Geology-3, **at least 60 days prior to** construction+.	**CPUC:** 11/20/16 01/16/17	**CPUC:** 01/16/17	**Complete** No design changes required.
Organic waste disposal method	CPUC	MM GHG-1	SDG&E shall notify CPUC of organic waste disposal methods that are compliant with MM GHG-1 **no less than 30 days prior to** construction.	**CPUC:** 12/07/16	**CPUC:** 12/07/16	**Complete**
Soil and Groundwater Testing	Regulatory agencies for the State of California (DTSC or RWQCB) and San Diego County	MM Hazards-5	Regulatory agencies for the State of California (DTSC or RWQCB) and San Diego County shall be contacted by SDG&E or its contractor to plan handling, treatment, and/or disposal options of hazardous soil and groundwater samples.	**CPUC:** 11/11/16	**CPUC:** N/A	**Complete** Submitted 11/11/16 See Hazards-5 Memo

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Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1]		Status
				Submitted	Approved	
Existing utility avoidance	Other utility companies	MM Utilities-3 MM Hazards-4	SDG&E shall notify all utility companies with utilities located within or crossing SDG&E ROW and franchise agreement area to locate and mark existing underground utilities along the entire length of the alignment **at least 30 days prior to** construction. *If the project would conflict with existing underground utilities after being identified by other utility companies, SDG&E shall realign the project vertically and/or horizontally as appropriate to avoid the existing utilities and provide adequate operational and safety buffering as described in MM Utilities-3. In instances where separation between City of San Diego sewer mains and the underground duct bank alignment is less than 10 feet, SDG&E or its contractor shall submit the intended construction methodology to the City of San Diego Public Utilities Department Water and Sewer Development Section for review and comment **at least 30 days prior to** construction. SDG&E shall inform CPUC if such conflicts are identified and of any changes to the project alignment prior to construction. *If changes in the project schedule are identified, SDG&E shall notify CPUC as soon as possible. If the pipeline is located within the footprint of a proposed pole foundation, no pole foundation excavation work shall commence until SDG&E and CPUC have been notified and the pole location has been relocated sufficiently far away from the buried pipeline.	**CPUC:** N/A	**CPUC:** N/A	**Complete**
Noise disturbance	All sensitive receptors and residences within 500 feet of construction sites, staging yards, and access roads, and within 1,000 feet of helicopter fly yards and flight paths. SDG&E shall also post notices in public areas, including recreational use areas, within 300 feet of the project alignment and construction work areas.	MM Noise-1	SDG&E shall provide notice by mail **at least 1 week prior to** construction activities to all sensitive receptors and residences within 500 feet of construction sites, staging yards, and access roads, and within 1,000 feet of helicopter fly yards and flight paths. SDG&E shall also post notices in public areas, including recreational use areas, within 300 feet of the project alignment and construction work areas.	*CPUC: 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17 10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18	*CPUC: N/A	Notifications sent out: 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17 10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18
Notify schools of helicopter activities	Schools within 1000 feet of helicopter activity	MM Noise-6	Schools shall be notified of any helicopter activities that would occur within 1,000 feet of school property **at least 30 days prior to** helicopter use.	**CPUC:** N/A	**CPUC:** N/A	**N/A**

Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1]		
				Submitted	Approved	Status
Trail detours	Trail users	APM REC-2	Where temporary trail detours are feasible and appropriate, SDG&E shall post signs directing trail users to detour routes. SDG&E shall provide CPUC with an example of the notification signage **prior to installation.**	**CPUC:** TBD	**CPUC:** TBD	**N/A**
Temporary lane or road closure notification	All residents with 300 feet	MM Traffic-6	All residents within 300 feet of proposed temporary lane or road closures shall be notified **at least 7 days prior to** a temporary lane or road closure.	**CPUC:** 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17 10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18	**CPUC:** N/A	Notifications sent out: 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17 10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18
Bike route/path closures	Bicyclists	MM Traffic-7	Signs shall be placed along the closed bike path a **minimum of 7 days prior to** bike path closure notifying bicyclists of the proposed construction activities and duration of bike path closure. Notifications posted along the bike path shall include the locations of detours and alternate routes to avoid conflicts with the construction area.	**CPUC:** N/A	**CPUC:** N/A	**N/A**
Emergency Personnel Notification of Road Closure	Emergency Personnel	MM Traffic-8	SDG&E shall notify local emergency personnel (i.e., fire departments, police departments, ambulance, and paramedic services) **at least 1 week prior to** lane or road closures.	**CPUC:** 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17	**CPUC:** N/A	Notifications mailed 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17

Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1]		
				Submitted	Approved	Status
				10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18		10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18
Bus and Transit Service Consultation	San Diego Metropolitan Transit System and City of San Diego School District	MM Traffic-12	SDG&E shall consult with the San Diego Metropolitan Transit System and City of San Diego School District **at least one month prior to** construction to coordinate construction activities adjacent to bus stops. SDG&E shall post notices of any temporary bus stop closure **at least 14 days prior to** temporary closure.	**CPUC:** N/A	**CPUC:** N/A	**Complete** SDG&E met with SDMTS on 01/05/16 SDG&E also met with the following schools: St. Gregory-01/25/17 Chabad-02/03/17 Jerabek Elementary-02/07/27 Alliant University-02/10/17 Dingeman Elementary-2/21/17 Marshall Middle-02/22/17 Ellen Browning Scripps Elementary-02/23/17 Poway Unified School District-03/01/17
Non-potable water use	CPUC	MM Utilities-1	SDG&E shall provide verification that water will be obtained from a non-potable source, or verification of the specific circumstances, requirements, and time frame during which potable water will be used, to the CPUC, **a minimum of 60 days prior to** the start of construction.	**CPUC:** 10/04/16	**CPUC:** 10/4/16	**Complete** City of San Diego Verification letter 09/30/16
Direct pedestrian and bicycle access through parks	Pedestrians and bicyclists	APM PS-1	SDG&E will create temporary foot and bicycle paths along with appropriate **advanced** notice and signage to direct and allow for the pedestrian and bicycle access through each affected park.	**CPUC:** N/A	**CPUC:** N/A	**N/A**

Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1]		Status
				Submitted	Approved	
Notification of construction	SDG&E notifies the public within 1,000 feet of Project work areas by public notice mailer	APM PS-2	SDG&E will provide the public with **advance notification** of construction activities. Concerns related to dust, noise, and access restrictions with construction activities will be addressed within this notification.	**CPUC:** 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17 10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18	**CPUC:** N/A	**Complete** Notifications mailed on: 12/09/16 01/17/17 01/24/17 01/30/17 03/07/17 05/10/17 06/13/17 06/30/17 08/24/17 10/10/17 10/27/17 01/10/18 02/02/18 02/22/18 03/16/18 04/05/18 04/13/18 05/11/18 08/14/18
Required Prior to Specific Construction Activities or Following Specific Findings						
Volatile organic compound (VOC) emissions	CPUC	MM Air-1	SDG&E shall provide confirmation to CPUC that they will conform with CARB's Suggested Control Measure for Architectural Coatings, and with SDAPCD's VOC Rules 61, 66.1, 67.0, and 67.17 for the use of coatings, sealants, adhesives, solvents, asphalt, and architectural coatings **prior to the use of such materials prior to construction.**	**CPUC:**	**CPUC:**	The PVC conduit was glued together with Low VOC Plastic Pipe Cement for Electric Conduit. No other architectural coatings or sealants were used.

Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1]		Status
				Submitted	Approved	
Nesting bird buffer reduction	CPUC	MM Biology-7	*If a CPUC-approved biologist determines that a reduced nesting bird avoidance buffer is biologically acceptable per MM Biology-7, SDG&E shall submit buffer reduction requests to a CPUC independent biologist for review and approval as described in MM Biology-7.	***CPUC:** **2017** NBBRR#1 03/30/17 NBBRR #2 04/06/17 NBBRR #3 04/11/17 NBBRR #4 05/12/17 NBBRR #5 05/12/17 NBBRR#6 05/17/17 NBBRR #7 05/31/17 NBBRR #8 06/12/17 NBBRR#9 06/16/17 NBBRR #10 06/23/17 NBBRR #11 07/10/17 NBBRR #12 08/01/17 **2018** NBBRR #1 02/07/18 NBBRR #2 03/27/18 NBBRR #3 03/30/18 NBBRR #4 04/20/18 NBBRR #5 05/17/18	***CPUC:** **2017** NBBRR#1 03/31/17 NBBRR #2 04/07/17 NBBRR #3 04/12/17 NBBRR #4 05/15/17 NBBRR #5 05/15/17 NBBRR#6 05/18/17 NBBRR #7 06/01/17 NBBRR #8 06/13/17 NBBRR#9 06/21/17 NBBRR #10 06/23/17 NBBRR #11 07/12/17 NBBRR #12 08/02/17 **2018** NBBRR #1 02/09/18 NBBRR #2 03/28/18 NBBRR #3 04/02/18 NBBRR #4 04/25/18 NBBRR #5 05/18/18	**Complete**

Notification	Entities to Notify	Requirement Sources	Timing and Submittal Requirements	Required Agency Review[1]		Status
				Submitted	Approved	
Discovery of previously undiscovered cultural or paleontological resources	CPUC and Native American tribes, if applicable	MM Cultural Resources-1	If previously undiscovered resources are identified during construction, the monitoring team shall notify the equipment operator, on-site supervisor, and the CPUC-approved cultural resources specialist/archaeologist of the finds. Construction efforts shall be temporarily diverted, and the CPUC-approved cultural resources specialist/archaeologist shall evaluate the resource.	***CPUC:** 05/10/17 05/15/17 06/05/17 07/07/17 08/16/17 08/17/17 08/22/17 08/29/17 09/21/17	***CPUC:** N/A N/A N/A N/A N/A N/A N/A N/A	**N/A**
Discovery of human remains	San Diego County Medical Examiner and CPUC	MM Cultural Resources-4	If human remains or suspected human remains are identified, SDG&E shall comply with California law (Heath and Safety Code Section 7050.5; PRC Sections 5097.94, 5097.98, and 5097.99). The CPUC-approved cultural resources specialist/archaeologist and SDG&E shall be **immediately** notified and if it is determined that there may be human remains, SDG&E shall **immediately** contact the Medical Examiner at the San Diego County Coroner's office. The Medical Examiner has **two (2) working days** to examine the remains after being notified by SDG&E. If the Medical Examiner believes the remains are Native American, he/she shall notify the California Native American Heritage Commission (NAHC) **within 24 hours.** If the remains are not believed to be Native American, the appropriate local law enforcement agency will be notified. The NAHC will **immediately** notify the person it believes to be the most likely descendant (MLD) of the remains, and the MLD has **48 hours** to make recommendations to the landowner or representative for the respectful treatment or disposition of the human remains and any associated grave goods.	***CPUC:** N/A	***CPUC:** N/A	**N/A**
Site Specific Blasting	All sensitive receptors within 500 feet of the area of effect	MM Hazards-1	SDG&E shall notify all sensitive receptors within 500 feet of the area of effect **at least 1 week prior to** the blasting event. The notification shall include the time and location of the blasting and provide best management practices that people can use to reduce the noise level experienced at the time of the blasting (i.e., stay indoors and close windows). The notification shall include phone numbers for a public liaison and complaint hotline as required by Mitigation Measure Noise-1. SDG&E shall also alert nearby residents **immediately prior to** blasting by sounding warning signals/sirens.	**CPUC:** N/A	**CPUC:** N/A	**N/A**
Covered species (listed as threatened or endangered by the federal or state)	USFWS (for Federal ESA listed plants) and CDFW (for California ESA listed plants)	APM BIO-2	In the event SDG&E identifies a covered species (listed as threatened or endangered by the federal or state) of plant within the temporary work area (10-foot radius) surrounding a power pole, SDG&E would notify the USFWS (for Federal ESA listed plants) and CDFW (for California ESA listed plants).	**USFWS: N/A** **CDFW: N/A**		**N/A**

Notes:

[1] Notifications and documentation required by other agencies must also be submitted to CPUC. CPUC reserves the right to review and comment on the accuracy and adequacy of notification materials, if necessary.

* Requirements marked with an asterisk are only applicable under specified conditions.

+ Not all APMs and MMs identify submittal periods; however, where identified CPUC requires SDG&E to submit materials prior to applicable activities to provide sufficient time to review the materials.

Table A-4 Reports, Studies and Surveys Tracking Table

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
Quino Checkerspot Butterfly (QCB)	Surveyor/Monitor Types • an individual that holds a recovery permit for the QCB Requirement Sources • MM Biology-5 Applicable Locations • All project work areas	SDG&E shall conduct a pre-activity **survey** for QCB in all project work areas and along all project access roads within the current USFWS survey area for QCB (USFWS 2014b) to determine areas of suitable QCB habitat. Reporting Methods Pre-activity Survey Report. No time-frame specified.	If QCB are detected, efforts shall be made to avoid impacts to the occupied habitat.	**N/A**	**I. Prior to Construction** 7/11/16 report indicated no QCB present **II. Construction** N/A **III. Post-Construction** N/A
Nesting Birds	Surveyor/Monitor Types • CPUC-approved Qualified Biologist Requirement Sources • MM Biology-7 Applicable Locations • All project work areas	**Nest surveys shall occur within 5 days prior** to the start of ground-disturbing construction or vegetation trimming or removal activities. If there is **no work in an area for 7 days**, it shall be considered a new work area if construction, vegetation trimming, or vegetation removal begins again. Survey results shall be provided to CPUC, USFWS, and CDFW prior to initiating construction activities. Reporting Methods Pre-activity Survey Report **prior to** initiating construction activities.	In order to adequately detect nests and implement MM Biology-7, it is assumed that regular (approximately weekly) monitoring and surveying for nesting birds would occur in and adjacent to work areas during construction to detect nests that may be established during non-working periods (i.e. slow periods and weekends) in conjunction with other nesting bird and wildlife monitoring on site. In addition, surveys during construction are highly recommended to ensure nests are not allowed to form on active construction materials or on equipment, as once eggs have been laid the nest cannot be dismantled per the MBTA.+ Reporting Methods SDG&E Weekly Compliance Summary Reports	**N/A**	**I. Prior to Construction** PSR 08/09/16 **II. Construction** Surveys conducted on: 03/30/17, 04/06/17, 04/07/17, 04/11/17, 04/14/17, 05/11/17, 05/12/17, 05/16/17, 05/17/17, 05/22/17, 05/23/17 05/30/17, 05/31/17, 06/05/17, 06/06/17, 06/09/17, 06/12/17, 06/13/17, 06/14/17, 06/16/17, 06/19/17, 06/20/17, 06/22/17, 06/23/17, 06/30/17, 07/03/17, 07/05/17, 07/06/17, 07/07/17, 07/10/17, 07/12/17, 07/13/17, 07/14/17, 07/17/17, 07/21/17, 07/25/17, 07/26/17, 07/28/17, 08/04/17, 08/10/17, 08/11/17, 08/15/17, 08/18/17, 08/22/17, 08/24/17, 08/25/17, 08/29/17, 01/22/18, 02/02/18, 02/06/18, 02/07/18, 02/20/18, 02/26/18,

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
					03/08/18, 03/12/18, 03/16/18, 03/26/18, 04/06/18, 04/12/18, 04/19/18, 04/26/18, 05/03/18, 05/04/18, 05/10/18, 05/17/18, 05/24/18, 6/15/18, 6/18/18, 7/5/18, 8/1/18, 8/3/18, 8/7/18 **III. Post-Construction** N/A
Western Burrowing Owl (WBO)	Surveyor/Monitor Types • CPUC-approved burrowing owl biologist Requirement Sources • MM Biology-8 • Burrowing Owl Monitoring and Mitigation Plan Applicable Locations Within suitable habitat for burrowing owl	SDG&E shall conduct a pre-construction take avoidance **survey** for the burrowing owl prior to initiating ground disturbance activities. Conduct a pre-activity survey prior to using pesticides in an area where burrowing owl could occur. Reporting Methods Pre-activity Survey Report. SDG&E shall be required to obtain approval from CDFW on the BOMMP prior to construction. SDG&E shall provide the approved BOMMP to the CPUC **30 days prior to** construction.	Weekly monitoring to ensure the area is absent of suitable burrows and WBO do not move into the area. Monitoring to ensure avoidance including full-time monitoring of WBO behavior for at least 3 days when activities occur adjacent to a buffer area.	**N/A**	**I. Prior to Construction** No burrowing owl detected during pre-activity survey **II. Construction** Surveys conducted on: 05/17/17. Verification Surveys conducted 06/27/17 for P05 CP and CC MM CP, and 07/05/17 for P03, P04, and P06. No burrows detected. **III. Post-Construction** N/A
San Diego Desert Woodrat	Surveyor/Monitor Types • CPUC-approved Qualified Biologist Requirement Sources • MM Biology-9 Applicable Locations Within 5 feet of all project work areas	A CPUC-approved Qualified Biologist shall conduct a preconstruction **survey** to identify potential San Diego desert woodrat houses within the project work areas and within 5 feet of the edge of the work areas to avoid direct take of woodrats. All woodrat houses shall be documented and reported through the MMCRP. Woodrat houses found within the work site or within 5 feet from a work site shall be flagged or fenced for avoidance. If impacts to a woodrat house located within a work site are unavoidable, a CPUC-approved Qualified Biologist, prior to construction and outside of the breeding season (April through June), shall dismantle the house by hand, removing the materials layer by layer to allow for adult woodrats to escape. If young are present and found during the disassembling process, the CPUC-	TBD	**N/A**	**I. Prior to Construction** No desert woodrat detected during pre-activity survey **II. Construction** Verification Surveys conducted 06/27/17 for P05 CP and CC MM CP (two middens detected at P05

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
		approved Qualified Biologist shall leave the site for at least 24 hours to allow for the rats to relocate their young on their own. This step shall be repeated as needed until the young have been relocated by the parent woodrats. Once the nest is vacant, the disassembly process shall be completed and the nest sticks shall be collected and moved to another suitable nearby location to allow for nest reconstruction. Piles of cut vegetation/slash shall be retained near the work site prior to nest dismantling to provide refuge for woodrats that may become displaced. Reporting Methods Preconstruction survey report. No time -frame specified.			CP), and 07/05/17 for P03, P04, and P06 (three potential woodrat middens located). Middens were dismantled after the breeding season. **III. Post-Construction** N/A
Western Yellow Bat	Surveyor/Monitor Types • CPUC-approved Qualified Biologist Requirement Sources • MM Biology-10 Applicable Locations • Trees within 50 feet of active work areas • Structures with suitable habitat within 100 feet of active work areas	Prior to construction, suitable special-status bat habitat shall be **assessed** by a CPUC- and CDFW-approved, Qualified Biologist in trees within a 50-foot buffer of active work areas and in any structures with suitable special-status bat roosting habitat within a 100-foot buffer of active work areas (e.g., bridges). If an active special-status bat maternity roost is found in a tree or structure, the approved biologist shall define an appropriate limited or no-work exclusion buffer surrounding the special-status bat maternity roost. The limited work or exclusion areas shall remain in effect until the approved biologist determines that the work would no longer be a disturbance to the roost. A reduction in the buffer may be approved by the Qualified Biologist if there is a change in the type of work to be conducted. Reporting Methods Western Yellow Bat Habitat Assessment **prior to** construction.	The limited work or exclusion buffer shall not apply to construction-related traffic using existing roads where the use of such roads is not limited to project-specific use (i.e., county roads, highways, farm roads, or other private roads) and shall not apply if the roost(s) is/are located in a residential, commercial, or industrial area. The boundaries of the limited or no work buffer shall be clearly marked by the approved biologist. The approved biologist shall inspect construction and roost sites when construction is occurring to ensure the integrity of the limited or no-work buffer and to ensure that the size of the buffer is adequate based on site conditions and construction-generated noise, dust, etc. Reporting Methods *SDG&E Weekly Compliance Summary Reports	**N/A**	**I. Prior to Construction** Preliminary surveys conducted on: 08/16 02/10/17 No special-status bat species' roost detected during pre-activity survey. **II. Construction** Survey conducted on 05/13/17. No bats detected. Verification surveys conducted on 06/27/17 for P05 CP and CC MM CP, and 07/05/17 for P03, P04, and P06. No bats detected. **III. Post-Construction** N/A
Special-Status Plants	Surveyor/Monitor Types • CPUC-approved Qualified Biologist • CPUC-approved wildlife biologist (construction monitoring only)	The CPUC-, USFWS-, and CDFW-approved biologist(s) shall conduct a pre-activity **survey** for all activities occurring off of access roads in sensitive habitats. The pre-activity survey shall be conducted no earlier than 30 days prior to surface disturbance. The results of the pre-activity survey shall be documented by the Qualified Biologist in a pre-activity survey report. The pre-activity survey report shall be submitted to the CPUC for review and approval prior to the start of construction, and the results shall be submitted to CDFW and USFWS as required by any regulatory permits or approvals. SDG&E shall maintain a library of special-status plant species locations, known to SDG&E, occurring within the project BSA. "Known" means a verified population either extant or	In order to ensure that habitats are not inadvertently impacted, the CPUC-, USFWS-, and CDFW-approved biologist shall flag boundaries of habitat which must be avoided. When necessary, the CPUC-, USFWS-, and CDFW-approved biologist shall also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the CPUC-, USFWS-, and CDFW-approved biologist shall make office and/or field presentations to field staff to review and	Reporting Methods NCCP Post-Construction Report	**I. Prior to Construction** Focused special-status plant surveys were conducted by a Qualified Biologist during the spring and summer 2015 and 2016. Pre-activity survey performed on 08/09/16

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
	Requirement Sources • APM BIO-1 • APM BIO-2 • MM Biology-1c Applicable Locations • All work areas within sensitive habitats and off of access roads	documented using record data. Information on known sites may come from a variety of record data sources including local agency Habitat Conservation Plans, pre-activity surveys, or biological surveys conducted for environmental compliance of the project. Plant inventories shall be consulted as part of pre-activity survey procedures. Prior to construction, SDG&E shall retain a Qualified Biologist to conduct focused, special-status plant surveys during the spring and summer 2015 in suitable habitats where focused plant surveys were not previously conducted. Locations of special-status plants shall be identified and inventoried. SDG&E will conduct pre-construction studies for all activities occurring off of existing access roads in natural areas. An independent biological consulting firm will survey all Proposed Project impact areas and prepared a Pre-Activity Study Report (PSR) outlining all anticipated impacts related to the Proposed Project. The Environmental Surveyor shall conduct pre-activity studies for all activities occurring in natural areas, and will complete a pre-activity study form including recommendations for review by a biologist and construction monitoring, if appropriate. The form will be provided to CDFW and USFWS but does not require their approval Reporting Methods Pre-activity Survey no earlier than **30 days prior** to surface disturbance. Report prior to construction.	become familiar with natural resources to be protected on a project site-specific basis. Avoidance of habitat for thread-leaved brodiaea is prioritized over minimization and mitigation. Impacts to special-status plant species shall be avoided to the maximum extent possible by installing fencing or flagging, marking areas to be avoided in construction areas, and limiting work in areas identified as having special-status plant species to periods of time when the plants have set seed and are no longer growing. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land preservation, plant salvage, transplantation, or other appropriate methods as determined by the Qualified Biologist. The Environmental Surveyor shall flag boundaries of habitats to be avoided and, if necessary, the construction work boundaries		**II. Construction** 07/12/17 Verified ESA area at P03 flagged. 07/20/17 Verified ESA area at P04 flagged. 07/24/17 Verified rare plant at P04 surveyed and marked for avoidance **III. Post-Construction** N/A
Geotechnical Surveys	Surveyor/Monitor Types • California-licensed Geotechnical Engineer or Certified Engineering Geologist Requirement Sources • MM Geology-1 • MM Geology-2 • MM Geology-1 Applicable Locations • Structures within moderate or high potential	The design level geotechnical **investigations** to be performed by SDG&E shall include investigations that assess the potential for liquefaction to affect the Project and all associated facilities, specifically at tubular steel pole locations in areas with potential liquefaction-related impacts. The design-level geotechnical **surveys** conducted by SDG&E shall include slope stability analyses in areas of planned grading and excavation that cross and are immediately adjacent to hills and mountains. These surveys shall acquire data that shall allow identification of specific areas with the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in other areas of ground disturbance, such as grading for access and spur roads. The investigations shall include an evaluation of subsurface conditions, identification of potential landslide hazards, and shall provide information for development of excavation plans and procedures. The design-level geotechnical **surveys** shall identify areas with potentially expansive or collapsible soils and include appropriate design features, including excavation of potentially expansive or collapsible soils during construction and replacement with	N/A	N/A	**I. Prior to Construction** Report submitted 11/18/16 **II. Construction** N/A **III. Post-Construction** N/A

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
	for liquefaction • Work areas with a moderate or high potential for landslides • All structures within collapsible and expansive soils	engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils. Studies shall conform to industry standards of care and American Society for Testing and Materials standards for field and laboratory testing. Reporting Methods Study results and proposed solutions shall be provided to the CPUC for review and approval **at least 60 days before** construction.			
Seismic Standards	Surveyor/Monitor Types • Registered Professional Engineer Requirement Sources • APM GEOL-1 Applicable Locations • All pole locations	Design and construction of overhead facilities would conform to CPUC General Order 95, industry practice, and SDG&E internal structural design requirements to minimize damage from seismic shaking. Reporting Methods SDG&E to provide documentation confirming design and construction of overhead facilities conforms to CPUC General Order 95, industry practice and SDG&E structural design requirements.	N/A	N/A	**I. Prior to Construction** Report submitted 11/18/16 **II. Construction** N/A **III. Post-Construction** N/A
Unexploded Ordnance Survey	Surveyor/Monitor Types • a trained contractor Requirement Sources • MM Hazards-6 Applicable Locations • identified Formerly Used Defense Sites (FUDS) database sites • known and potential areas used by the military along the ROW	SDG&E shall perform a **survey** of identified Formerly Used Defense Sites (FUDS) database sites prior to the start of construction to identify potential unexploded ordnance locations. An unexploded ordnance investigation of known and potential areas used by the military along the ROW shall be undertaken by a trained contractor. Reporting Methods Unexploded Ordnance Survey Report **prior to** the start of construction.	N/A	N/A	**I. Prior to Construction** Survey performed 1/16/17 **II. Construction** N/A **III. Post-Construction** N/A
AC Interference Study	Surveyor/Monitor Types	SDG&E shall prepare an AC interference **study** that evaluates the AC interference effects of the proposed 230-kV transmission line on nearby parallel metallic pipelines.	N/A	N/A	**I. Prior to Construction**

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
	• Electrical engineering specialist Requirement Sources • MM Utilities-4 Applicable Locations nearby parallel metallic pipelines	Reporting Methods AC Interference Study Report **60 days prior** to initiation of construction			Draft Underground Study (UG) submitted to CPUC 11/01/16 CPUC provided UG comments 11/21/16 Revised Draft UG submitted to CPUC 12/08/16 CPUC UG approval 12/13/16 Draft #1Overhead Study (OH) submitted to CPUC 01/18/17 CPUC provided OH comments 02/15/17 Draft #2 OH submitted 05/12/17 CPUC commented 05/22/17 Draft #3 OH submitted 06/14/17 CPUC OH approved 06/21/17 **II. Construction** N/A **III. Post-Construction** N/A
Induced Current Touch Study	Surveyor/Monitor Types • Electrical engineering specialist Requirement Sources • MM Hazards-7 Applicable Locations • All aboveground and underground objects in the	SDG&E shall prepare an Induced Current Touch **study** that evaluates the conductive and inductive interference effects of the proposed 230-kV transmission line on the identified objects. Reporting Methods Induced Current Touch Study **60 days prior** to commencing construction.	N/A	N/A	**I. Prior to Construction** UNDERGROUND Draft *Underground* Study (UG) submitted to CPUC 11/01/16 CPUC provided UG comments 11/21/16

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
	vicinity of the proposed 230-kV transmission line that may potentially present a shock hazard to the public, due to induced currents or voltages				Revised Draft UG submitted to CPUC 12/08/16 **Approved** 12/13/16 OVERHEAD Draft #1 *Overhead* Study (OH) submitted to CPUC 01/18/17 CPUC provided OH comments 02/15/17 Draft #2 OH submitted 05/12/17 CPUC commented 05/22/17 Draft #3 submitted 06/14/17 **Approved** 06/21/16 **II. Construction** AT&T notified SDG&E of presence of underground copper lines in ROW. Modelling and studies were performed prior to and after energization. **III. Post-Construction** N/A

APPENDIX A
REQUIREMENT TRACKING TABLES

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
Pre- and Post-Construction Parks and Trails Condition Report	Surveyor/Monitor Types • N/A Requirement Sources • MM Recreation-1 Applicable Locations • preserves and parks, and where multi-use trails are present in work areas, including both designated trails and unofficial trails along access roads	Prior to the start of construction, SDG&E shall prepare a Preconstruction Parks and Trails Condition **Report** that documents the existing condition of project work areas in preserves and parks (e.g., Black Mountain Ranch Community Park, Sycamore Canyon Park, Los Peñasquitos Canyon Preserve), and where multi-use trails are present in work areas, including both designated trails and unofficial trails along access roads. At a minimum, the report shall include text descriptions and accompanying photographs for each resource located in a work area. The Preconstruction Parks and Trails Condition Report shall be submitted to the CPUC no less than 30 days prior to construction. Reporting Methods Pre-Construction Parks and Trails Condition Report no less than **30 days prior** to construction in the area.	N/A	Following construction for the entire project, SDG&E shall prepare a Post-Construction Parks and Trails Restoration Report that documents the parks and trails restoration effort. Reporting Methods Post-Construction Parks and Trails Condition Report no later than **60 days after** construction completion in the area.	**I. Prior to Construction** 01/31/17 **II. Construction** N/A **III. Post-Construction** Report pending
Pre-Construction Road Assessment	Surveyor/Monitor Types • N/A Requirement Sources • MM Traffic-3 Applicable Locations • along the underground transmission line route and entrances and exits to all staging yards	SDG&E shall conduct a pre-construction road condition **assessment** along the underground transmission line route[1] and entrances and exits to all staging yards. Reporting Methods Road Assessment Report **prior to** construction	N/A	N/A	**I. Prior to Construction** *Staging Yards* 11/28/16 12/21/16 *Roads* 03/07/17 *Roads Update* 06/27/17 **II. Construction** N/A **III. Post-Construction** Post-construction assessment and report pending
Weed Survey	Surveyor/Monitor Types • N/A Requirement Sources • MM Biology-3 Applicable Locations	A pre-construction weed **inventory** shall be conducted by **surveying** the entire ROW and areas immediately adjacent to the ROW where access permission is obtained, as well as at all ancillary facilities associated with the Project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner, MCAS Miramar (for ROW on MCAS	From the time construction begins **until 2 years after construction is complete**, annual **surveying** for new invasive weed populations and the monitoring of identified and treated populations shall be required in the entire ROW and areas immediately adjacent to the ROW where	From the time construction begins **until 2 years after construction is complete**, annual surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required in the	**I. Prior to Construction** Survey submitted in Weed Control Plan 11/11/16.

[1] The original measure stated Carmel Valley Road because the Proposed Project only included underground transmission line within Carmel Valley Road. The measure was intended to apply to all roads with underground transmission line within the selected alternative.

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
	• The entire ROW and areas immediately adjacent to the ROW where access permission is obtained	Miramar), or City of San Diego (for ROW within the City of San Diego MHPA) as being a priority for control, (2) are weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory (online) Database (Cal-IPC 2006 [and 2007 update]; http://www.cal-ipc.org/ip/inventory/index.php) or are weed species of concern to MCAS Miramar (for ROW on MCAS Miramar), and (3) aid and promote the spread of wildfires in San Diego County. Prolific wildfire promoting species such as brome grasses (*Bromus* sp.) shall be mapped but not targeted for control outside of Project impact areas. These populations shall be mapped and described according to density and area covered. These plant species shall be treated prior to construction or at a time when treatments would be most effective based on phenology according to control methods and practices for invasive weed populations included in the Weed Control Plan or required by MCAS Miramar or City of San Diego. Reporting Methods N/A	access permission is obtained, as well as at all ancillary facilities associated with the Project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner, MCAS Miramar (for ROW on MCAS Miramar), or City of San Diego (for ROW within the City of San Diego MHPA) as being a priority for control, (2) are weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory (online) Database (Cal-IPC 2006 [and 2007 update]; http://www.cal-ipc.org/ip/inventory/index.php) or are weed species of concern to MCAS Miramar (for ROW on MCAS Miramar), and (3) aid and promote the spread of wildfires in San Diego County. Reporting Methods N/A	entire ROW and areas immediately adjacent to the ROW where access permission is obtained, as well as at all ancillary facilities associated with the Project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner, MCAS Miramar (for ROW on MCAS Miramar), or City of San Diego (for ROW within the City of San Diego MHPA) as being a priority for control, (2) are weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory (online) Database (Cal-IPC 2006 [and 2007 update]; http://www.cal-ipc.org/ip/inventory/index.php) or are weed species of concern to MCAS Miramar (for ROW on MCAS Miramar), and (3) aid and promote the spread of wildfires in San Diego County. Reporting Methods N/A	**II. Construction** Annual survey performed 05/15/18 **III. Post-Construction** Second annual survey pending
Compensatory Mitigation for Impacts to Habitat	Surveyor/Monitor Types • Not specified Requirement Sources • MM Biology-6 Applicable Locations • Compensatory parcels		Management specifications including, but not limited to, regular biological **surveys** to compare with the baseline data. Reporting Methods N/A		**I. Prior to Construction** *NCCP Annual Report* 05/12/17 *Cover Letter* 03/31/17 **II. Construction** Surveys completed **III. Post-Construction** N/A

Table A-5 Monitoring Tracking Table

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
Cultural Resources	Surveyor/Monitor Types • CPUC-approved cultural resource specialist/archaeologist Requirement Sources • MM Cultural Resources-1 MM Cultural Resources-3 • APM CUL-1	N/A	Archaeological **monitoring** shall be conducted during ground disturbing activities (i.e., grubbing, brushing, vegetation clearing, excavation, grading, etc.) in areas with high potential to discover historical and archaeological resources. Monitoring teams shall work under the direct supervision of a CPUC-approved cultural resources specialist/archaeologist. Monitoring teams shall include one qualified archaeological monitor and one Native American monitor. In the event that ground disturbing activities simultaneously occur in multiple locations, a monitoring team shall be required at each location. If the CPUC-approved cultural resources specialist/archaeologist determines that the potential for cultural resources is low after initial ground-disturbance, the CPUC-approved cultural resources specialist/archaeologist may determine that monitoring is no longer required in that location. Native American monitoring may be implemented if transmission line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place. Reporting Methods SDG&E Weekly Compliance Summary Reports	Reporting Methods Upon completion of archaeological monitoring, SDG&E shall prepare a report that summarizes monitoring efforts and the results, analyses, and conclusions of the monitoring program. The report shall be submitted to the CPUC within 60 days of the close of construction.	**I. Prior to Construction** N/A **II. Construction** Monitoring complete **III. Post-Construction** N/A
Paleontological Resources	Surveyor/Monitor Types CPUC-approved paleontological monitor Requirement Sources • MM Paleontology-1 Applicable Locations • All work areas	N/A	Paleontological **monitoring** shall be required for all ground-disturbing activities that occur in in formations determined to have a moderate to high paleontological sensitivity; ground-disturbing activities that occur areas with indeterminate, low, or marginal paleontological sensitivity may be conducted on a part-time basis at the discretion of the qualified paleontologist, and areas with zero paleontological sensitivity will not require monitoring. Paleontological monitoring shall also be required for all construction activities that require excavation, grading, or augering of 5 feet in diameter or greater at depths greater	N/A	**I. Prior to Construction** N/A **II. Construction** Monitoring complete **III. Post-Construction** N/A

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
			than 5 feet only in areas where these activities will disturb previously undisturbed strata in moderate to high paleontologically sensitive formations. Reporting Methods Paleontological Summary Report		
Nesting Birds with a Reduced Buffer	Surveyor/Monitor Types • CPUC, USFWS-, and CDFW-approved qualified biologist Requirement Sources • MM Biology-7 Applicable Locations • All work areas	N/A	These nests shall be **monitored** on a daily basis and only during construction activities (no monitoring required during periods when no work is conducted) by a qualified biologist until the qualified biologist has determined that the young have fledged or construction ends within the work area (whichever occurs first). Reporting Methods A final report shall be submitted to CPUC, CDFW, and USFWS at the end of each nesting season summarizing all avian-related monitoring results and outcomes for the duration of project construction.	N/A	**I. Prior to Construction** N/A **II. Construction** Nests with buffers were monitored **III. Post-Construction** N/A
Fire Patrol	Surveyor/Monitor Types • Not specified Requirement Sources • MM Fire-1 • APM PS-6 Applicable Locations • All work areas	N/A	During Project construction, SDG&E shall implement ongoing fire **patrols** during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods. SDG&E may have private security personnel **monitoring** construction sites where materials are stored, which may include the substations, staging yards and ROW. Reporting Methods N/A	N/A	**I. Prior to Construction** N/A **II. Construction** A fire monitor was present on site **III. Post-Construction** N/A
Site Blasting	Surveyor/Monitor Types • Not specified Requirement Sources • MM Hazards-1 Applicable Locations • All work areas	N/A	Immediately prior to controlled detonation, SDG&E personnel shall **visually verify** that no people are located within the hazardous zone. SDG&E shall follow all required **monitoring** protocols described in the blasting plan. Reporting Methods TBD	N/A	**I. Prior to Construction** N/A **II. Construction** N/A **III. Post-Construction** N/A

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
Retaining Wall Screening	Surveyor/Monitor Types • Not specified Requirement Sources • MM Aesthetics-1 Applicable Locations • Retaining walls	N/A	N/A	SDG&E shall **monitor** the vegetation planted in the retaining wall pockets for three years or until plants are fully established Reporting Methods N/A	**I. Prior to Construction** N/A **II. Construction** N/A **III. Post-Construction** Pending
Cable Pole Screening	Surveyor/Monitor Types • Not specified Requirement Sources • MM Aesthetics-4 Applicable Locations • Cable poles	N/A	N/A	SDG&E shall **monitor** the vegetation around the cable pole until all container plants are fully established. Reporting Methods N/A	**I. Prior to Construction** N/A **II. Construction** N/A **III. Post-Construction** Pending
Compensatory Mitigation for Impacts to Habitat	Surveyor/Monitor Types Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken by an experienced, licensed Habitat Restoration Contractor, if necessary to ensure the success of the restoration Requirement Sources • MM Biology-6 Applicable Locations • Compensatory parcels	N/A	N/A	Maintenance and **monitoring** for restoration shall be for 5 years or until success criteria are met. Compensation planting areas shall be monitored eight times in Year 1, six times per year in Years 2 and 3, and 4 times per year in Years 4 and above. Compensation planting areas shall be monitored for invasive plants in the first 5 years following replanting. Invasive plant monitoring shall occur eight times in Year 1, six times per year in Years 2 and 3, and 4 times per year in Years 4 and 5. If invasive plants are found during the 5-year monitoring period, they shall be removed as necessary to support meeting the cover and vegetation composition success criteria. If the restoration fails to meet the established success criteria after the maintenance and monitoring period, maintenance and monitoring shall extend beyond the 5-year period until the criteria are met or unless otherwise approved by the CPUC. Reporting Methods SDG&E files annual monitoring reports on restoration areas until success criteria are met and conducts surveys and provides reports to CPUC for all off-site mitigation	**I. Prior to Construction** N/A **II. Construction** N/A **III. Post-Construction** Pending

Resource	Surveyor/Monitor Type[1], Requirement Sources, Applicable Locations	Pre-Construction	Construction	Post-Construction	Status/Results
				parcels in accordance with the approved Habitat Management Plan or other documentation.	

APPENDIX A
REQUIREMENT TRACKING TABLES

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APPENDIX B PRE-CONSTRUCTION MITIGATION MEASURES AND APMS

APPENDIX B
PRE-CONSTRUCTION MITIGATION MEASURES AND APMS

Table B-1 Pre-Construction Mitigation Measures and APMs

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-2: Retaining Wall Screening**
Measure Text	Retaining walls shall use blocks that accommodate plants along the wall face. The block color shall be similar in hue and value to the native soil or up to 2 shades darker. All retaining walls shall be planted with native, drought tolerant vegetation common to the area. SDG&E shall submit a retaining wall design and vegetation plan to the CPUC for review and approval. The retaining wall design shall show the planting pockets in the blocks and the color of the blocks for all project retaining walls. SDG&E shall not order or procure the blocks until CPUC approves the design and color of the blocks. The vegetation plan shall include a list of all species to be planted in the retaining walls and the container size for the plantings.
Location	Retaining walls at Structure P2 (adjacent to Sycamore Canyon Substation) and Structure P5 (near intersection of Stonebridge Parkway and Stonecroft Terrace Road)
Monitoring/Reporting Action	A retaining wall design and vegetation plan is prepared by SDG&E according to this mitigation measure and to the approval of the CPUC.
Effectiveness Criteria	Visual effects of retaining walls are minimized by using block color that are similar in hue and value to the native soil or up to 2 shades darker and have plants growing along the retaining wall.
Status	**Complete.** Combined with Facilities Color Treatment Plan.
Review/Approval	Draft #1 submitted to CPUC 02/23/17 CPUC commented 03/15/17 Draft #2 submitted to CPUC 04/21/17 CPUC commented 05/04/17 Final submitted to CPUC 05/04/17 CPUC approved Plan 05/04/17
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-3: Facilities Color Treatment Plan**
Measure Text	SDG&E shall prepare a Facilities Color Treatment Plan describing the application of colors to all new structures. The proposed color treatments shall minimize visual intrusion and contrast by matching the new structure's color to the adjacent existing structures and surroundings. Ancillary structures shall use colors that are congruent with the landscape in which they are proposed. Color treatments shall reduce new structure contrast making new structures less noticeable. The Plan shall be submitted to CPUC for review and approval at least 90 days prior to ordering the first structure to be color treated. The Facilities Color Treatment Plan shall include: • Specification, and 11 x 17-inch color simulations at real-world scale, of the treatment proposed for use on project structures from identified KOPs. Structures include TSPs, retaining wall faces, and fences for cable poles and staging areas. • List of each major project structure, specifying the color and finish proposed.

Category	Measure Requirement/Application
	• Two sets of brochures and/or color chips for the proposed color for each project element. • A detailed schedule for completion of the treatment. • A procedure to ensure proper treatment maintenance for the life of the project. SDG&E shall not specify to the vendors the treatment of any structures treated during manufacture or perform the final treatment on any structures treated onsite during construction until SDG&E receives notification of approval of the Color Treatment Plan by the CPUC.
Location	New poles and structures
Monitoring/Reporting Action	A Facilities Color Treatment Plan is prepared by SDG&E according to the provisions identified in this mitigation measure and to the approval of the CPUC.
Effectiveness Criteria	Minimize visual intrusion and contrast by implementing the Facilities Color Treatment Plan.
Status	**Complete**
Review/Approval	Draft #1 submitted to CPUC 02/23/17 CPUC commented 03/15/17 Draft #2 submitted to CPUC 04/21/17 CPUC commented 05/04/17 Final submitted to CPUC 05/04/17 CPUC approved Plan 05/04/17
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-4: Cable Pole Screening**
Measure Text	SDG&E shall prepare a Landscape Plan that details the landscape treatment and fence design around the cable poles. The Landscape Plan shall include vegetation to screen the base of the cable pole and fence to the extent feasible. Vegetation around the cable pole shall consist of container plantings due to the need to visually screen the cable pole. The vegetation type selected shall be drought-tolerant and compatible with the surrounding vegetation communities. Within City of San Diego Open Space Parks, vegetation shall consist of locally native species and shall be approved by the City of San Diego's MSCP Biologist. SDG&E shall submit the Landscape Plan to the CPUC for review and approval at least 60 days prior to construction of the cable pole. No work shall be conducted at the cable pole prior to CPUC approval of the Landscape Plan.
Location	Cable pole locations (Structures P5 and CC MM)
Monitoring/Reporting Action	SDG&E shall prepare a Landscape Plan that defines vegetation for screening of the cable poles. The Landscape Plan shall be prepared to the approval of the CPUC.
Effectiveness Criteria	The cable poles are visually screened with drought-tolerant vegetation.
Status	**Complete.** Combined with the Facilities Color Treatment Plan.
Review/Approval	Draft #1 submitted to CPUC 02/23/17

Category	Measure Requirement/Application
	CPUC commented 03/15/17 Draft #2 submitted to CPUC 04/21/17 CPUC commented 05/04/17 Final submitted to CPUC 05/04/17 CPUC approved Plan 05/04/17
APM/Mitigation Measure Title	**Mitigation Measure Agriculture-1: Coordinate with the Evergreen Nursery Property Management**
Measure Text	SDG&E shall coordinate the following actions with the Evergreen Nursery property manager no less than 30 days prior to development of the Evergreen Nursery Staging Yard and conductor stringing activities in Segment C: • Coordinate the location of the staging yard to a mutually suitable position within the approximately 50-acre nursery operation • Communicate conductor stringing activities on the site, such as the anticipated schedule for staging activities and conductor stringing • Communicate potential disruptions from construction activities (e.g., noise, dust, traffic, and access restrictions) • Communicate safety considerations for nursery staff and patrons (e.g., avoidance areas and the use of signs and barriers). • SDG&E shall provide verification of completed preconstruction conditions to the CPUC. Documentation shall be submitted to CPUC verifying condition and communication requirements. Following the completion of staging and conductor stringing at the site, SDG&E shall coordinate with the Evergreen Nursery property manager to ensure that sites used for staging within the nursery are returned to near pre-construction conditions.
Location	Evergreen Nursery Staging Yard
Monitoring/Reporting Action	SDG&E shall submit documentation of their coordination with Evergreen Nursery.
Effectiveness Criteria	Minimize disruptions to Evergreen Nursery operations.
Status	**N/A.** This staging area was not required.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Air-3: Dust Control Management Plan**
Measure Text	SDG&E shall submit a Dust Control Management Plan to the CPUC for review and approval no less than 30 days prior to construction. The Dust Control Management Plan shall contain measures that provide for conformance to SDAPCD Rule 55 requirements including: 1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period; and 2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall: a. Be minimized by the use of any of the following or equally effective

Category	Measure Requirement/Application
	track-out/carry-out and erosion control measures that apply to the project or operation: track-out gates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and b. Be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry out, only PM10-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances. Measures to comply with visible dust emissions restrictions could include: • Watering or applying soil stabilizers to areas with loose dust • Ceasing earthmoving activities when sustained (i.e., a period or periods of time aggregating more than 3 minutes in any 60-minute period) wind speed exceeds 20 miles per hour • Covering soil stockpiles
Location	All areas of earth disturbance and all sources of fugitive dust generated by the project, such as on roadways and trucks transporting materials
Monitoring/Reporting Action	SDG&E prepares a Dust Control Management Plan that addresses SDAPCD Rule 55 requirements and is prepared to the approval of the CPUC.
Effectiveness Criteria	Fugitive dust is controlled in compliance with SDAPCD Rule 55 requirements.
Status	**Complete**
Review/Approval	Draft submitted to CPUC 10/14/16 CPUC comments provided 10/24/16 Final submitted to CPUC 11/01/16 CPUC approved Plan 11/09/16
APM/Mitigation Measure Title	**Mitigation Measure Biology-1b: Environmental Training Program**
Measure Text	An environmental training program (ETP) shall be developed and presented to all crew members prior to the beginning of all project construction. The training shall describe special-status plant and wildlife species and sensitive habitats that could occur within project work areas, protection afforded to these species and habitats, and avoidance and minimization measures required to avoid and/or minimize impacts from the project. Penalties for violations of environmental laws shall also be incorporated into the training session. Each crewmember shall be provided with an informational training handout and a decal to indicate that he/she has attended the training. The roles and responsibilities of CPUC-, USFWS-, and CDFW-approved biologist(s) and other environmental representatives shall be identified in the Mitigation Monitoring, Compliance, and Reporting Program and discussed during the training. All new construction personnel shall receive this training before beginning work on this project. A copy of the training and training materials shall be provided to CPUC for review and approval at least 30 days prior to the start of construction. Training

Category	Measure Requirement/Application
	logs and sign-in sheets shall be provided to CPUC on a monthly basis. As needed, in-field training shall be provided to new on-site construction personnel by the environmental compliance supervisor or a qualified individual who shall be identified by SDG&E's Project Biologist, or initial training shall be recorded and replayed for new personnel.
Location	All work areas
Monitoring/Reporting Action	SDG&E prepares an environmental training program that includes special-status plants and wildlife that could occur in the work area, protections afforded to these species, and penalties for violations. The training program shall be prepared to the approval of the CPUC, and may be incorporated into the more encompassing Safety and Environmental Awareness Program (SEAP) for the Project.
Effectiveness Criteria	All workers receive environmental training prior to construction and understand the environmental requirements and sensitive resources associated with the project.
Status	**Presentation Complete. Refresher training program implemented September 9, 2017.** **Training Complete.** Training logs and sign-in sheets provided to CPUC on a monthly basis throughout construction.
Review/Approval	Submitted to CPUC 12/05/16 Refresher training material submitted to CPUC 09/09/17 CPUC review and approval 12/09/16 Refresher training review and approval 090717
APM/Mitigation Measure Title	**Mitigation Measure Biology-1c: Pre-Activity Survey**
Measure Text	The CPUC-, USFWS-, and CDFW-approved biologist(s) shall conduct a pre-activity survey for all activities occurring off of access roads in sensitive habitats. The pre-activity survey shall be conducted no earlier than 30 days prior to surface disturbance. The results of the pre-activity survey shall be documented by the Qualified Biologist in a pre-activity survey report. The pre-activity survey report shall be submitted to the CPUC for review and approval prior to the start of construction, and the results shall be submitted to CDFW and USFWS as required by any regulatory permits or approvals. The pre-activity study report shall include the following: • Type, location, and size of project • Date, time, weather, surrounding land uses • Evaluation of type and quality of habitat • Work description and methods which will be used to avoid or minimize ground disturbance, including biological monitoring during construction • Anticipated impacts and proposed mitigation • Map of location of work area In those situations where the Qualified Biologist cannot make a definitive species identification, the Qualified Biologist shall make a determination based on the available evidence and professional expertise. In order to ensure that habitats are not inadvertently impacted, the CPUC-, USFWS-, and CDFW-approved biologist shall flag boundaries of habitat which

Category	Measure Requirement/Application
	must be avoided. When necessary, the CPUC-, USFWS-, and CDFW-approved biologist shall also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the CPUC-, USFWS-, and CDFW-approved biologist shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project site-specific basis. Avoidance of habitat for thread-leaved brodiaea is prioritized over minimization and mitigation. SDG&E shall maintain a library of special-status plant species locations, known to SDG&E, occurring within the project BSA. "Known" means a verified population either extant or documented using record data. Information on known sites may come from a variety of record data sources including local agency Habitat Conservation Plans, pre-activity surveys, or biological surveys conducted for environmental compliance of the project. Plant inventories shall be consulted as part of pre-activity survey procedures.
Location	All work areas within sensitive habitats
Monitoring/Reporting Action	Pre-activity surveys and reports are completed by a Qualified Biologist; survey reports are filed with the CPUC, CDFW, and USFWS. Verify that habitat areas including thread-leaved brodiaea habitat are appropriately flagged for avoidance.
Effectiveness Criteria	Sensitive habitats and special-status plants are avoided to the extent feasible.
Status	**Complete.**
Review/Approval	Draft #1 submitted 02/03/17 CPUC provided comments 02/24/17 Draft #2 submitted 03/15/17 CPUC provided comments 03/23/17 Final submitted 03/30/17 CPUC approval 03/30/17
APM/Mitigation Measure Title	**Mitigation Measure Biology-1d: Maintenance, Repair, and Construction of Facilities**
Measure Text	SDG&E shall implement the following measures pertaining to maintenance, repair, and construction of facilities: 1. *See construction and operation and maintenance.* 2. *See operation and maintenance.* 3. *See construction.* 4. *See construction and operation and maintenance.* 5. When siting new facilities, every effort shall be made to cross wetland habitat perpendicular to the watercourse, spanning the watercourse to minimize the amount of disturbance to riparian area. 6. *See construction and operation and maintenance*. 7. *See construction and operation and maintenance*. 8. *See construction and operation and maintenance*. 9. The CPUC-, USFWS-, and CDFW-approved biologist shall approve of an activity prior to working in any natural area where disturbance to habitat may be unavoidable.

Category	Measure Requirement/Application
	10. *See operation and maintenance.* 11. *See operation and maintenance.* 12. *See construction.* 13. *See construction and operation and maintenance.* 14. *See operation and maintenance.* 15. The CPUC-, USFWS-, and CDFW-approved biologist shall be contacted to perform a pre-activity survey when vegetation trimming is planned in sensitive habitats. Whenever possible, trees in sensitive habitats such as native riparian, woodland, or scrub vegetation shall be scheduled for trimming in non-sensitive times (i.e., outside of breeding or nesting seasons). 16. No new facilities and activities shall be planned that would disturb vernal pools, their watersheds, or impact their natural regeneration. Continued historic maintenance of existing infrastructure utilizing existing access roads shall be allowed to continue in areas containing vernal pool habitat, provided no such habitat located within these roads would be impacted by project activities. New construction of overhead infrastructure which spans vernal pool habitats shall be allowed as long as the placement of facilities or the associated construction activities in no way impact the vernal pools. 17. *See construction.* 18. *See construction.* 19. *See operation and maintenance.* 20. *See construction.* 21. *See construction.* 22. *See construction.* 23. *See operation and maintenance.*
Location	Sensitive natural areas and vernal pools
Monitoring/Reporting Action	SDG&E makes every effort to cross streams perpendicularly, notifies the USFWS and/or CDFW prior to performing any work in sensitive natural areas where disturbance to habitat may be unavoidable, trim trees in sensitive habitats during non-sensitive times, and does not plan any activities or facilities within or near vernal pools.
Effectiveness Criteria	Impacts to riparian areas and sensitive natural areas are minimized, and new facilities and activities avoid impacts on vernal pools.
Status	**Complete.** The USFWS and CDFW were notified on 02/06/16.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Biology-1g: Survey Work Protocols**
Measure Text	SDG&E shall implement the follow measures during survey work: • SDG&E survey personnel shall keep vehicles on existing access roads. No clearing of brush shall be allowed from February through September without prior approval from the CPUC-, USFWS-, and CDFW-approved biologist, who will ensure the brush clearing activity, does not adversely affect a special-status species or nesting birds.

Category	Measure Requirement/Application
	• Hiking off roads or paths for survey data collection shall be allowed year-round as long as other protocols are met.
Location	Areas requiring pre-construction surveys
Monitoring/Reporting Action	Verify that surveyors keep to existing access roads.
Effectiveness Criteria	All survey personnel keep vehicles on existing access roads.
Status	**Complete.** SDG&E completed survey beginning in early 2016 through November 2016.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Biology-3: Weed Control Plan**
Measure Text	SDG&E shall prepare and implement a comprehensive, adaptive Weed Control Plan for pre-construction and long-term invasive, non-native species abatement. Developed land shall be excluded from weed control. Where SDG&E owns the property, the Weed Control Plan shall include specific weed abatement methods, practices, and treatment timing developed specifically for the Project area by qualified individuals with at least 5 years of weed control experience within San Diego County. The Weed Control Plan shall address control methods and issues controlling invasive non-native species within all vegetation communities and land cover types found along the Project alignment. On ROW easement on MCAS Miramar, the Weed Control Plan shall incorporate all appropriate and legal U.S. Marine Corps-stipulated regulations. The Weed Control Plan shall be submitted to MCAS Miramar for final authorization of weed control methods, practices, and timing prior to implementation of weed control on MCAS Miramar. The Weed Control Plan shall be submitted to the City of San Diego for final authorization of weed control methods, practices, and timing prior to implementation of any weed control within the City of San Diego MHPA. The Weed Control Plan shall include the following: • A pre-construction weed inventory shall be conducted by surveying the entire ROW and areas immediately adjacent to the ROW where access permission is obtained, as well as at all ancillary facilities associated with the Project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner, MCAS Miramar (for ROW on MCAS Miramar), or City of San Diego (for ROW within the City of San Diego MHPA) as being a priority for control, (2) are weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory (online) Database (Cal-IPC 2006 [and 2007 update]; http://www.cal-ipc.org/ip/ inventory/ index.php) or are weed species of concern to MCAS Miramar (for ROW on MCAS Miramar), and (3) aid and promote the spread of wildfires in San Diego County. • Prolific wildfire-promoting species such as brome grasses (Bromus sp.) shall be mapped but not targeted for control outside of Project impact areas. These populations shall be mapped and described according to density and area covered. These plant species shall be treated prior to construction or at a time when treatments would be most effective based on phenology according to control methods and practices for invasive

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	weed populations included in the Weed Control Plan or required by MCAS Miramar or City of San Diego. • Weed control treatments shall include all legally permitted methods to be used in the following prioritized order: preventative, manual, mechanical, and chemical. • All treatments shall be applied with the authorization of the, MCAS Miramar and City of San Diego as appropriate. • The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA) and implemented by a Licensed Qualified Applicator. • Where manual and/or mechanical methods are used, disposal of the plant debris will be within an approved landfill area within San Diego County. • The timing of the weed control treatment shall be determined for each plant species in consultation with the PCA for the Project, and with MCAS Miramar, and City of San Diego as appropriate, with the goal of controlling populations before they start producing seeds.
Location	Areas of earth disturbance where weeds could establish
Monitoring/Reporting Action	SDG&E shall prepare and submit a weed control plan that defines specific weed abatement methods, practices, and treatment timing. The weed control plan will be prepared to the approval of the CPUC.
Effectiveness Criteria	Weeds are controlled to baseline levels in areas of temporary disturbance.
Status	**Complete**
Review/Approval	Draft Weed Control Plan submitted to CPUC 11/11/16 Pre-construction weed inventory was included in Appendix B of the Weed Control Plan submitted to CPUC 11/11/16CPUC comments provided 11/21/16 Final Weed Control Plan submitted 12/05/16 CPUC Weed Control Plan approval 12/14/16
APM/Mitigation Measure Title	**Mitigation Measure Biology-5: Pre-Activity Surveys for Quino Checkerspot Butterfly (QCB)**
Measure Text	SDG&E shall conduct a pre-activity survey for QCB in all project work areas and along all project access roads within the current USFWS survey area for QCB (USFWS 2014b) to determine areas of suitable QCB habitat. In areas where no suitable QCB habitat is found during the pre-activity survey, construction may occur at any time, consistent with the HCP for the QCB (i.e., the operational protocols in the 1995 Subregional NCCP), and no QCB mitigation shall be required. If suitable QCB habitat is present, and construction cannot avoid the suitable habitat, then one of the following shall occur: • A USFWS protocol, adult, flight-season survey for the QCB shall be conducted by an individual that holds a recovery permit for the QCB pursuant to section 10(a)(1)(A) of the ESA. • The survey shall be conducted within suitable QCB habitat areas to determine whether or not the habitat is occupied by QCB. • In areas where there is no QCB detected, construction activities may proceed without further review, and the suitable QCB habitat shall be

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	mitigated at a 1:1 ratio per the methods in the HCP for the QCB. • If QCB are detected, efforts shall be made to avoid impacts to the occupied habitat. Impacts to occupied habitat shall be mitigated at a 2:1 ratio per the methods in the HCP for the QCB. • If the timing of the project will not allow for an adult, flight-season surveys to determine the presence or absence of QCB, presence of QCB will be assumed in all suitable habitats, and mitigation for impacts shall occur at a 2:1 ratio per the methods in the HCP for the QCB. • If impacts to occupied QCB habitat (as determined by surveys or where QCB presence is assumed) are greater than one acre, SDG&E shall confer with USFWS to ensure that the activity's impact will not cause the permanent loss of QCB habitat.
Location	Within suitable QCB habitat
Monitoring/Reporting Action	Prepare survey reports for QCB protocol adult flight season surveys documenting surveys within all suitable habitat areas for QCB; verify surveys were appropriately completed and impacts are mitigated as required by the HCP.
Effectiveness Criteria	Suitable QCB habitat is mapped and impacts on QCB habitat are mitigated as required by the HCP.
Status	**Complete.** QCB survey performed during the 2016 flight season (February through April). No QCB were observed during the pre-activity survey. PSR submitted to CPUC 02/03/17.
Review/Approval	PSR submitted to CDFW and USFWS 02/06/17 Draft #1 submitted to CPUC 02/03/17 CPUC provided comments 02/24/17 Draft #2 submitted 03/15/17 CPUC provided comments 03/23/17 Final submitted 03/30/17 CPUC approval 03/30/17
APM/Mitigation Measure Title	**Mitigation Measure Biology-6: Compensatory Mitigation for Impacts to Habitat**
Measure Text	SDG&E shall restore temporarily impacted areas following construction according to the performance criteria described below and/or shall purchase/dedicate suitable habitat for preservation to off-set permanently impacted areas. Restoration of some vegetation communities in temporarily impacted areas may not be possible if those areas are subject to vegetation management to maintain proper clearance between transmission lines and vegetation, for example. In those instances, the mitigation shall consist of off-site acquisition and preservation of the vegetation community. Restoration of temporarily impacted areas involves recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, maintaining (i.e., weeding, replacement planting, supplemental watering, etc.), and monitoring the restored area for a period of 5 years or until year 5 success criteria are met. SDG&E shall prepare a Habitat Restoration Plan that shall be subject to approval by the CPUC, USFWS, CDFW, City of San Diego (for restoration within

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City of San Diego MHPA), and MCAS Miramar (for restoration on MCAS Miramar) prior to habitat impacts. Required mitigation ratios are provided by habitat type in Table 4.1-10. In cases where the impacts to sensitive vegetation communities occur in the City of San Diego MHPA, the mitigation shall also occur in the MHPA. The Habitat Restoration Plan shall also identify, if applicable, the potential for reintroduction and/or increasing MSCP-covered species populations within habitat restoration areas if those covered species were affected by the Proposed Project.

Table 4.1-10 Required Habitat Mitigation Ratios

Vegetation Community	Mitigation Ratio	
	Temporary	Permanent[1]
Diegan Coastal Sage Scrub		
Diegan coastal sage scrub	1:1	1:1
Diegan coastal sage scrub in the MHPA	1:1	2:1
Diegan coastal sage scrub-Disturbed	1:1	1:1
Diegan coastal sage scrub-Disturbed in the MHPA	1:1	2:1
Diegan coastal sage scrub-Revegetated	1:1	1:1
Diegan coastal sage scrub-Revegetated in the MHPA	---	2:1
Coastal Sage Scrub		
Coastal sage-chaparral scrub	0.5:1	1:1
Coastal sage-chaparral scrub in the MHPA	1:1	2:1
Chaparral		
Chamise chaparral	0.5:1	1:1
Chamise chaparral in the MHPA	1:1	2:1
Chamise chaparral-disturbed	0.5:1	1:1
Chamise chaparral-disturbed in the MHPA	1:1	2:1
Scrub oak chaparral	1:1	1:1
Scrub oak chaparral in the MHPA	2:1	2:1
Southern mixed chaparral	0.5:1	1:1
Southern mixed chaparral in the MHPA	1:1	2:1
Southern mixed chaparral-disturbed	0.5:1	1:1

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	Southern mixed chaparral-disturbed in the MHPA	1:1	2:1
	Grassland		
	Native grassland	1:1	1:1
	Native grassland in the MHPA	2:1	2:1
	Non-native grassland	0.5:1	1:1
	Non-native grassland in the MHPA	---	2:1
	Freshwater Marsh		
	Freshwater marsh	---	1:1
	Vernal Pool		
	San Diego Mesa Vernal Pool	3:1	3:1
	Riparian		
	Southern riparian scrub	---	1:1
	Mule fat scrub	---	1:1
	Mulefat scrub in MHPA	---	2:1
	Southern willow scrub	---	1:1
	Southern willow scrub in MHPA	---	2:1
	Tamarisk scrub in MHPA	---	2:1
	Southern coast live oak riparian forest	---	1:1
	Southern coast live oak riparian forest in MHPA	---	2:1

Note:

[1] Mitigation ratios for permanent impacts are consistent with SDG&E's NCCP; 1:1 for permanent impacts outside a preserve and 2:1 for permanent impacts inside a preserve.

The Restoration Plan shall include the following performance criteria:

- Percent cover and composition shall be similar to the conditions of a nearby reference site, defined as variation of no more than 10 percent absolute cover from the reference site cover and species composition condition.
- Maintenance and monitoring for restoration shall be for 5 years or until success criteria are met. Compensation planting areas shall be monitored eight times in Year 1, six times per year in Years 2 and 3, and 4 times per year in Years 4 and above.
- Compensation planting areas shall be monitored for invasive plants in the first 5 years following replanting. Invasive plant monitoring shall occur eight times in Year 1, six times per year in Years 2 and 3, and 4 times per year in Years 4 and 5. If invasive plants are found during the 5-year monitoring

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	period, they shall be removed as necessary to support meeting the cover and vegetation composition success criteria. • If the restoration fails to meet the established success criteria after the maintenance and monitoring period, maintenance and monitoring shall extend beyond the 5-year period until the criteria are met or unless otherwise approved by the CPUC. • Maintenance and monitoring shall be conducted following a prescribed schedule to assess progress and identify potential problems with the restoration. Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken by an experienced, licensed Habitat Restoration Contractor during the maintenance and monitoring period if necessary to ensure the success of the restoration. Any impacts associated with unauthorized activity (e.g., exceeding approved construction footprints or implementing the Habitat Management Plan after the allowed timeframe of 18 months following the initiation of any vegetation disturbing activities) shall be mitigated at a 5:1 ratio. Restoration of the unauthorized impacts shall be credited at a 1:1 ratio (i.e., mitigated by in-place habitat restoration); the remaining 4:1 shall be acquired and preserved off-site. For areas where habitat restoration cannot meet mitigation requirements, as determined by the Habitat Restoration Specialist in coordination with CPUC, USFWS, CDFW, and MCAS Miramar (for restoration on MCAS Miramar), off-site purchase and dedication of habitat (or as otherwise prescribed by MCAS Miramar for restoration on MCAS Miramar) shall be provided at the mitigation ratios provided in Table 4.1-10. ***Mitigation Parcels/Habitat Management Plans.*** All off-site mitigation parcels shall be approved by the CPUC, USFWS, CDFW and MCAS Miramar (as applicable) and must be acquired, or their acquisition must be assured. To demonstrate that such parcels will be acquired, SDG&E shall submit a Habitat Acquisition Plan at least 120 days prior to any ground disturbing activities for CPUC, USFWS, CDFW, and MCAS Miramar (as applicable) review and approval. The Habitat Acquisition Plan shall include, but shall not be limited to: • Legal descriptions and maps of all parcels to be acquired; • Schedule that includes phasing relative to impacts; • Documentation demonstrating that the mitigation parcel(s) provides high quality habitat roughly equivalent in composition to the habitats that would be impacted by the project and at appropriate acreages; • Timing of conservation easement recording; • Initiation of habitat management activities relative to acquisition; and • Assurance mechanisms (e.g., performance bonds to assure adequate funding) for any parcels not actually acquired prior to vegetation disturbing activities. A Habitat Management Plan shall be prepared by a biologist and approved by the CPUC, USFWS, CDFW, and MCAS Miramar (as applicable) for all acquired off-site mitigation parcels. The Habitat Management Plan must be approved in writing by these agencies (as applicable) within 18 months of the initiation of any vegetation disturbing activities. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired, off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:

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	• Adequate SDG&E funding for the preparation and implementation of the HMP • Legal descriptions of all mitigation parcels approved by the CPUC, USFWS, CDFW, and MCAS Miramar (for mitigation parcels to be acquired for MCAS Miramar impacts) • Baseline biological data for all mitigation parcels • Designation of a land management entity approved by the CPUC, USFWS, CDFW, and MCAS Miramar (for mitigation parcels to be acquired for MCAS Miramar impacts) to provide in-perpetuity management • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan • Designation of responsible parties and their roles (e.g., provision of endowment by SDG&E to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity) Management specifications including, but not limited to, regular biological surveys to compare with the baseline data; invasive, non-native species control; fence/sign replacement or repair; public education; trash removal; and annual reports to CPUC, USFWS, CDFW, and MCAS Miramar (for mitigation parcels to be acquired for MCAS Miramar impacts)
Location	Sensitive habitat areas
Monitoring/Reporting Action	SDG&E shall provide documentation describing how these requirements are satisfied through compliance with the NCCP and/or prepare the following plans: • Restoration Plan • Habitat Acquisition Plan • Habitat Management Plan Plans or documentation shall be prepared to the approval of the CPUC, USFWS, CDFW, and City of San Diego.
Effectiveness Criteria	Areas of temporary habitat impact are restored to pre-construction conditions. Permanent impacts are mitigated through off-site land preservation in comparable habitats at the approved mitigation ratio.
Status	**Complete**
Review/Approval	Technical Memorandum submitted 01/09/17 CPUC provided comments 01/20/17 Revised Memo submitted 02/01/17 CPUC approved Memo 02/01/17 City of San Diego approved Memo 02/03/17 Habitat Restoration Plan Draft submitted 03/02/17 CPUC provided comments 03/21/17 Habitat Restoration Plan Draft 2 submitted 05/15/17 CPUC provided comments 05/25/17 Habitat Restoration Plan Draft 3 submitted 06/09/17

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	CPUC reviewed and approved the Plan 06/15/17 City of San Diego approved the Plan 06/15/17 Habitat Restoration Plan Final submitted 06/29/17 CDFW approved the Plan on 06/29/17 CDFW approved the Plan on 06/29/17 MCAS Miramar approved the Plan on 06/29/17 NCCP 2017 Annual Report submitted 06/20/18 with updated estimate of impacts
APM/Mitigation Measure Title	**Mitigation Measure Biology-7: Mitigation for Bird Species**
Measure Text	This measure applies to all work areas in which any construction-related activities must be conducted during the nesting bird season (generally between January 15 and August 31, but may be earlier or later depending on species, location, and weather conditions). ***Nesting Bird Survey Requirements.*** If work is scheduled to occur during the avian nesting season, nesting bird surveys shall be conducted according to the following provisions: 1. Nest surveys shall occur within 5 days prior to the start of ground-disturbing construction or vegetation trimming or removal activities. If there is no work in an area for 7 days, it shall be considered a new work area if construction, vegetation trimming, or vegetation removal begins again. 2. Surveys shall be conducted with sufficient survey duration and intensity of effort necessary for the identification of active nests, which is defined as once birds begin constructing, preparing, or using a nest for egg-laying. A nest is no longer an "active nest" if abandoned by the adult birds or once fledglings are no longer dependent on the nest". Surveys shall include nests of protected species within vegetation identified for removal and/or pruning, and within the following buffers of active work areas: 0.25-mile buffer for white-tailed kite; 500-foot buffer for other raptor species. 3. Surveys shall be conducted during locally appropriate dates for nesting seasons determined in consultation with the USFWS and CDFW; note that generally the season is between January 15 and August 31 but may be earlier or later depending on species, location, and weather conditions. Species-specific nesting seasons for some species are identified below. 4. The surveys shall be conducted by a CPUC, USFWS-, and CDFW-approved qualified biologist. 5. Survey results shall be provided to CPUC, USFWS, and CDFW prior to initiating construction activities. 6. Work areas within which significant noise is not generated, such as work performed manually, by hand or on foot, and/or that would not cause significant disturbances to nesting birds (e.g., operating switches, driving on access roads, normally occurring activities at substations, and activities at staging and laydown areas) do not need to be surveyed prior to use. None of these activities shall result in physical contact with a nest.
Location	All work areas in the vicinity of suitable habitat for nesting birds

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Monitoring/Reporting Action	SDG&E submits pre-construction surveys results to CPUC, USFWS, and CDFW; verify all surveys are performed by a qualified biologist.
Effectiveness Criteria	SDG&E performs surveys to establish buffers and avoid nest abandonment as a result of construction activities.
Status	**Complete**
Review/Approval	Surveys conducted on the following dates:

03/30/17	04/06/17	04/07/17	04/11/17	04/14/17	05/11/17	05/12/17
05/16/17	05/17/17	05/22/17	05/23/17	05/30/17	05/31/17	06/05/17
06/06/17	06/09/17	06/12/17	06/13/17	06/14/17	06/16/17	06/19/17
06/20/17	06/22/17	06/22/17	06/22/17	06/23/17	06/30/17	07/03/17
07/05/17	07/06/17	07/07/17	07/10/17	07/12/17	07/13/17	07/14/17
07/17/17	07/21/17	07/25/17	07/26/17	07/28/17	08/04/17	08/11/17
08/15/17	08/15/17	08/18/17	08/22/17	08/24/17	08/25/17	08/29/17
01/22/18	02/06/18	02/07/18	02/20/18	02/26/18	03/08/18	03/12/18
03/16/18	03/26/18	04/06/18	04/12/18	04/19/18	04/26/18	05/03/18
05/04/18	05/10/18	05/17/18	05/24/18	06/15/18	06/18/18	07/05/18
08/01/18	08/03/18	08/07/18	08/10/18	08/14/18	08/15/18	

APM/Mitigation Measure Title	**Mitigation Measure Biology-8: Burrowing Owl Monitoring and Mitigation Plan**
Measure Text	SDG&E shall prepare a Burrowing Owl Monitoring and Mitigation Plan (BOMMP) consistent with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). SDG&E shall submit the Draft BOMMP to CDFW and CPUC. SDG&E shall be required to obtain approval from CDFW on the BOMMP prior to construction. SDG&E shall provide the approved BOMMP to the CPUC 30 days prior to construction. In accordance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) and CDFW-approved BOMMP, SDG&E shall conduct a pre-construction take avoidance survey for the burrowing owl prior to initiating ground disturbance activities. In areas where owl presence is not found, construction may proceed without further mitigation. If western burrowing owl occupancy on site is confirmed during pre-construction take avoidance surveys, SDG&E shall implement the CDFW-approved Burrowing Owl Monitoring and Mitigation Plan in coordination with CDFW.
Location	Within suitable habitat for burrowing owl
Monitoring/Reporting Action	SDG&E prepares a BOMMP to the approval of CDFW and CPUC. Pre-construction take avoidance survey reports are provided to the CPUC.
Effectiveness Criteria	Avoidance of occupied burrows and surrounding foraging area to the extent feasible; successful passive relocation, if required.
Status	**Complete**
Review/Approval	Draft submitted to CDFW 11/11/16 CDFW response received 11/11/16 Draft submitted to CPUC 11/17/16 CPUC comments provided 12/2/16 Revised draft submitted to CPUC 12/12/16 CPUC approval 12/13/16

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APM/Mitigation Measure Title	**Mitigation Measure Biology-9: San Diego Desert Woodrat Mitigation**
Measure Text	A CPUC-approved Qualified Biologist shall conduct a preconstruction survey to identify potential San Diego desert woodrat houses within the project work areas and within 5 feet of the edge of the work areas to avoid direct take of woodrats. All woodrat houses shall be documented and reported through the MMCRP. Woodrat houses found within the work site or within 5 feet from a work site shall be flagged or fenced for avoidance. If impacts to a woodrat house located within a work site are unavoidable, a CPUC-approved Qualified Biologist, prior to construction and outside of the breeding season (April through June), shall dismantle the house by hand, removing the materials layer by layer to allow for adult woodrats to escape. If young are present and found during the disassembling process, the CPUC-approved Qualified Biologist shall leave the site for at least 24 hours to allow for the rats to relocate their young on their own. This step shall be repeated as needed until the young have been relocated by the parent woodrats. Once the nest is vacant, the disassembly process shall be completed and the nest sticks shall be collected and moved to another suitable nearby location to allow for nest reconstruction. Piles of cut vegetation/slash shall be retained near the work site prior to nest dismantling to provide refuge for woodrats that may become displaced.
Location	Within suitable habitat for San Diego desert woodrat
Monitoring/Reporting Action	SDG&E submits pre-construction survey report including documentation of any occurrence of woodrat houses. Verify that woodrat houses within 5 feet of the work area have been flagged for avoidance or the woodrat house has been appropriately dismantled if avoidance is infeasible.
Effectiveness Criteria	Direct impacts to the San Diego Wood Rat are minimized. Avoidance of occupied nests and surrounding foraging area, successful nest dismantling/passive relocation, if required.
Status	**Complete.** No San Diego Wood Rat detected during PSR. Two middens detected during P05 and CC MM CP verification survey on 06/27/17, and three potential middens found during P03, P0r and P06 verification surveys on 07/05/17. Middens were dismantled after the breeding season.
Review/Approval	PSR submitted to CDFW and USFWS 02/06/17 Draft #1 submitted to CPUC 02/03/17 CPUC provided comments 02/24/17 Draft #2 submitted 03/15/17 CPUC provided comments 03/23/17 Final submitted 03/30/17 CPUC approval 03/30/17.
APM/Mitigation Measure Title	**Mitigation Measure Biology-10: Mitigation for Special-Status Bat Species**
Measure Text	Prior to construction, suitable special-status bat habitat shall be assessed by a CPUC- and CDFW-approved, Qualified Biologist in trees within a 50-foot buffer of active work areas and in any structures with suitable special-status bat roosting habitat within a 100-foot buffer of active work areas (e.g., bridges). If an active special-status bat maternity roost is found in a tree or structure, the

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	approved biologist shall define an appropriate limited or no-work exclusion buffer surrounding the special-status bat maternity roost. The limited work or exclusion areas shall remain in effect until the approved biologist determines that the work would no longer be a disturbance to the roost. A reduction in the buffer may be approved by the Qualified Biologist if there is a change in the type of work to be conducted. The limited work or exclusion buffer shall not apply to construction-related traffic using existing roads where the use of such roads is not limited to project-specific use (i.e., county roads, highways, farm roads, or other private roads) and shall not apply if the roost(s) is/are located in a residential, commercial, or industrial area. The boundaries of the limited or no work buffer shall be clearly marked by the approved biologist. The approved biologist shall inspect construction and roost sites when construction is occurring to ensure the integrity of the limited or no-work buffer and to ensure that the size of the buffer is adequate based on site conditions and construction-generated noise, dust, etc. All bat roosts documented during pre-construction surveys shall be reported through the MMCRP.
Location	Areas within 100 feet of suitable roosting habitat for special-status bats
Monitoring/Reporting Action	Suitable habitat for special-status bat habitat within 100 feet of work areas is surveyed for active maternity roosts. All bat roosts documented during surveys are reported to the CPUC. Verify that exclusions are appropriately marked and implemented.
Effectiveness Criteria	Successful avoidance of impacts to special-status bat maternity roosts.
Status	**Complete.** The Bat survey was performed on 02/10/17. No bat species were observed. A second survey was conducted on 05/13/17. No bats detected. Verification surveys conducted 06/27/17 for P05 and CC MM CP, and 07/05/17 for P03, P04, and P06. No bats detected.
Review/Approval	PSR submitted to CDFW and USFWS 02/06/17 Draft #1 submitted to CPUC 02/03/17 CPUC provided comments 02/24/17 Draft #2 submitted 03/15/17 CPUC provided comments 03/23/17 Final submitted 03/30/17 CPUC approval 03/30/17.
APM/Mitigation Measure Title	**APM BIO-1: Minimization of Impacts to Special-Status Plants**
Measure Text	Implementation of the following measures will ensure impacts to special-status plant species remain less than significant: • Prior to construction, SDG&E shall retain a Qualified Biologist to conduct focused, special-status plant surveys during the spring and summer 2015 in suitable habitats where focused plant surveys were not previously conducted. • Locations of special-status plants shall be identified and inventoried. • Impacts to special-status plant species shall be avoided to the maximum extent possible by installing fencing or flagging, marking areas to be

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	avoided in construction areas, and limiting work in areas identified as having special-status plant species to periods of time when the plants have set seed and are no longer growing. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land preservation, plant salvage, transplantation, or other appropriate methods as determined by the Qualified Biologist. Alternatively, if the special-status plant species in question is a SDG&E Subregional NCCP covered species, mitigation consistent with measures established in the NCCP and discussed in the SDG&E Subregional NCCP, above, shall be provided.
Location	All areas containing suitable habitat for special-status plants.
Monitoring/Reporting Action	Qualified biologist will conduct pre-construction surveys and submit special-status plant inventory to CPUC. Verify that special-status species are marked for avoidance and/or mitigation is completed consistent with the SDG&E Subregional NCCP.
Effectiveness Criteria	Impacts to special-status plants are reduced by surveying, identifying special-status plant locations, fencing, flagging areas to be avoided, and compensatory mitigation.
Status	**Complete.** Surveys were conducted in 2015 and 2016.
Review/Approval	N/A
APM/Mitigation Measure Title	**APM BIO-2: SDG&E Subregional NCCP**
Measure Text	The Proposed Project will avoid and minimize impacts to biological resources through implementation of the SDG&E Subregional NCCP. The SDG&E Subregional NCCP establishes a mechanism for addressing biological resource impacts incidental to the development, maintenance, and repair of SDG&E facilities within the SDG&E Subregional NCCP coverage area. The Proposed Project is located within the SDG&E Subregional NCCP coverage area. The SDG&E Subregional NCCP includes a Federal Endangered Species Act (ESA) Section 10(A) permit and a California ESA Section 2081 memorandum of understanding (for incidental take) with an Implementation Agreement with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW – formerly the California Department of Fish and Game), respectively, for the management and conservation of multiple species and their associated habitats, as established according to the Federal and State ESAs and California's NCCP Act. The NCCP's Implementing Agreement confirms that the mitigation, compensation, and enhancement obligations contained in the Agreement and the SDG&E Subregional NCCP meet all relevant standards and requirements of the California ESA, the Federal ESA, the NCCP Act, and the Native Plant Protection Act with regard to SDG&E's activities in the Subregional Plan Area. Pursuant to the SDG&E Subregional NCCP, SDG&E will conduct pre-construction studies for all activities occurring off of existing access roads in natural areas. An independent biological consulting firm will survey all Proposed Project impact areas and prepared a Pre-Activity Study Report (PSR) outlining all anticipated impacts related to the Proposed Project. The Proposed Project will include monitoring for all project components, as recommended by the PSR and outlined in the SDG&E Subregional NCCP, as well as other avoidance and minimization measures outlined in the NCCP's Operational

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	Protocols. The PSR will be submitted to the CDFW and USFWS for review. Prior to the commencement of construction, a verification survey will be conducted of the Proposed Project disturbance areas, as required by the SDG&E Subregional NCCP. Specific operating restrictions that are incorporated into the Proposed Project design to comply with the SDG&E Subregional NCCP include the following: • All SDG&E personnel would participate in an environmental training program conducted by SDG&E, with annual updates (Section 7.1.2, 11.). • The Environmental Surveyor shall conduct pre-activity studies for all activities occurring in natural areas, and will complete a pre-activity study form including recommendations for review by a biologist and construction monitoring, if appropriate. The form will be provided to CDFW and USFWS but does not require their approval (Section 7.1.3, 13.). • The Environmental Surveyor shall flag boundaries of habitats to be avoided and, if necessary, the construction work boundaries (Section 7.1.3, 14.). • The Environmental Surveyor must approve of activity prior to working in sensitive areas where disturbance to habitat may be unavoidable (Section 7.1.4, 25.).). • In the event SDG&E identifies a covered species (listed as threatened or endangered by the federal or state) of plant within the temporary work area (10-foot radius) surrounding a power pole, SDG&E would notify the USFWS (for Federal ESA listed plants) and CDFW (for California ESA listed plants) (Section 7.1.4, 28.). • The Environmental Surveyor shall conduct monitoring as recommended in the pre-activity study form (Section 7.1.4, 35.). • During the nesting season, the presence or absence of nesting species (including raptors) shall be determined by a biologist who would recommend appropriate avoidance and minimization measures (Section 7.1.6, 50).
Location	All construction areas within suitable habitat
Monitoring/Reporting Action	Qualified biologist will conduct pre-construction studies, flag or fence areas to protect species and implement mitigation consistent with SDG&E Subregional NCCP.
Effectiveness Criteria	Direct impacts to sensitive plant species are minimized by flagging sensitive areas, monitoring and implementing the provisions of the SDG&E Subregional NCCP.
Status	**Complete.**
Review/Approval	PSR submitted to CDFW and USFWS 02/06/17 Draft #1 submitted to CPUC 02/03/17 CPUC provided comments 02/24/17 Draft #2 submitted 03/15/17 CPUC provided comments 03/23/17 Final submitted 03/30/17 CPUC approval 03/30/17
APM/Mitigation	**Mitigation Measure Cultural Resources-2: Worker Training**

APPENDIX B
PRE-CONSTRUCTION MITIGATION MEASURES AND APMS

Category	Measure Requirement/Application
Measure Title	
Measure Text	Proposed Project personnel shall receive training regarding the appropriate work practices necessary to effectively implement the APMs and mitigation measures, including the potential for exposing subsurface cultural resources, including human remains. Training shall be required for all personnel before construction commences and repeated for all new personnel before they begin work on the Project. This training program shall be submitted to the CPUC for approval at least 30 days before the start of construction and include procedures to be followed upon the discovery or suspected discovery of archaeological materials and human remains, consistent with the procedures set forth in Mitigation Measure Cultural Resources-1 and Cultural Resources-4.
Location	All work areas
Monitoring/Reporting Action	The training program is provided to CPUC at least 30 days prior to construction and may be incorporated into the more encompassing SEAP for the Project. Verify all construction personnel receive training that includes cultural resources protocol prior to construction.
Effectiveness Criteria	All construction personnel are trained prior to the start of construction, and training is repeated as new personnel join the crew.
Status	**Complete.** SEAP Approved. Refresher training program implemented September 9, 2017. Training Complete.
Review/Approval	SEAP provided to CPUC for review 12/05/16 Refresher training material submitted to CPUC 09/09/17 CPUC approval 12/09/16 Refresher training review and approval 090717
APM/Mitigation Measure Title	**APM CUL-1: Archaeological Monitoring**
Measure Text	A qualified archaeologist would attend preconstruction meetings, as needed, and a qualified archaeological monitor would monitor activities. The requirements for archaeological monitoring would be noted on the construction plans. The archaeologist's duties would include monitoring, evaluation of any finds, analysis of collected materials, and preparation of a monitoring results report conforming to Archaeological Resource Management Reports guidelines.
Location	Within areas of ground disturbance.
Monitoring/Reporting Action	Verify that a qualified archaeologist is present at preconstruction meetings with contractors regarding monitoring requirements during ground-disturbing work and the requirement for archaeological monitoring is noted on the construction plans.
Effectiveness Criteria	Construction activities are monitored by a qualified archaeologist who is capable of implementing the cultural resource mitigation measures contained in this MMCRP.
Status	**Complete**

Category	Measure Requirement/Application
Review/Approval	CPUC EM's noted the present of archaeological monitors.
APM/Mitigation Measure Title	**APM CUL-2: Avoidance of Environmentally Sensitive Areas**
Measure Text	Known cultural resources that will be avoided would be demarcated as Environmentally Sensitive Areas. Construction crews would be instructed to avoid disturbance of these areas.
Location	Areas of known cultural resources
Monitoring/Reporting Action	Verify areas with known cultural resources are marked as Environmentally Sensitive Areas.
Effectiveness Criteria	Significant known cultural resources are avoided.
Status	**Complete.** No known areas demarcated.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Fire-1: Final Fire Prevention Plan**
Measure Text	SDG&E shall prepare and adhere to a Final Fire Prevention Plan (a.k.a. "Fire Plan") specifically tailored for the Proposed Project. The Final Fire Plan shall include, among other provisions, requirements for carrying emergency fire suppression equipment on all construction and employee or contractor vehicles and equipment, restricting smoking and idling vehicles, and restricting construction during red flag warnings. The Final Fire Plan shall be submitted to CPUC for approval at least 30 days prior to construction. The Final Fire Plan shall, at a minimum, include all of the provisions of the Preliminary Draft Fire Plan (Appendix I) and the elements listed below: • During Project construction, SDG&E shall implement ongoing fire patrols during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods. • During Red Flag Warning events, as issued daily by the National Weather Service, all construction and maintenance activities shall cease, with an exception for transmission line testing, repairs, unfinished work, or other specific activities which may be allowed if the facility/equipment poses a greater fire risk if left in its current state. A transmission line may be tested if the loss of another transmission facility could lead to system instability or cascading outages. • All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational in all Proposed Project work areas and access routes to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction activities at each construction work site. All fires shall be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition. • All construction personnel shall be trained in fire-safe actions, initial attack firefighting, and fire reporting. All construction personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. All construction personnel shall be

Category	Measure Requirement/Application
	provided a hard hat sticker listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on hard hat stickers shall be updated and redistributed to all construction personnel, and outdated hard hat stickers destroyed, prior to the initiation of construction activities on the day the information change goes into effect.
Location	All project work areas
Monitoring/Reporting Action	The Final Fire Plan is submitted to the CPUC at least 30 days prior to construction and is revised to the approval of the CPUC.
Effectiveness Criteria	Fire prevention and suppression measures are properly implemented.
Status	**Complete**
Review/Approval	Submitted to CPUC 10/14/16 CPUC comments provided 10/24/16 Revised Draft submitted to CPUC 11/01/16 CPCU comments provided 11/10/16 CPUC approval 11/18/16
APM/Mitigation Measure Title	**Mitigation Measure Fire-2: Maintain Emergency Access**
Measure Text	SDG&E and/or its contractors shall contact and coordinate with the MCAS Miramar Fire Department and applicable local fire departments (i.e., City of San Diego and City of Poway) prior to construction to determine the appropriate amounts of fire equipment to be carried on construction vehicles and to coordinate fire suppression activities. SDG&E shall submit verification of its consultation with MCAS Miramar and local fire departments to CPUC at least 30 days prior to construction.
Location	All work areas near vegetation
Monitoring/Reporting Action	SDG&E submits verification of its consultation with MCAS Miramar and local fire departments to CPUC prior to construction.
Effectiveness Criteria	Vehicles are parked in approved areas and contain necessary firefighting equipment. SDG&E activities do not obstruct fire response efforts.
Status	**Complete.** SDG&E completed coordination with MCAS Miramar, City of San Diego, and City of Poway Fire Departments and provided documentation to CPUC 11/23/16
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Fire-3: Water Tanks**
Measure Text	SDG&E and/or its contractors shall have water tanks and/or water trucks sited/available at active Project sites for fire protection during Project construction. Prior to construction, SDG&E and its contractors shall contact and coordinate with the MCAS Miramar Fire Department and applicable local fire departments (i.e., City of San Diego and City of Poway) to determine the appropriate minimum capacity and locations for the water tanks if water trucks are not used. SDG&E shall submit verification of its consultation with

Category	Measure Requirement/Application
	MCAS Miramar and local fire departments to CPUC at least 30 days prior to construction.
Location	Active project sites
Monitoring/Reporting Action	Records of consultation with MCAS Miramar and local fire departments are submitted to the CPUC.
Effectiveness Criteria	Water is available at active work areas for fire protection.
Status	**Complete.** SDG&E completed coordination with MCAS Miramar, City of San Diego, and City of Poway Fire Departments and provided documentation to CPUC 11/23/16. Water tanks are located at Driving Range Staging Yard.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Geology-1: Geotechnical Investigation for Liquefaction**
Measure Text	The design level geotechnical investigations to be performed by SDG&E shall include investigations that assess the potential for liquefaction to affect the Project and all associated facilities, specifically at tubular steel pole locations in areas with potential liquefaction-related impacts. Where these hazards are found to occur, appropriate engineering design and construction measures shall be incorporated into the project designs as deemed appropriate by a California-licensed Geotechnical Engineer or Certified Engineering Geologist. Design measures that would mitigate liquefaction-related impacts could include construction of pile foundations, ground improvement of liquefiable zones, and incorporation of slack in cables to allow ground deformations without damage to structures. Study results and proposed solutions to mitigate liquefaction shall be provided to the CPUC for review and approval at least 60 days before final project design.
Location	Structures within moderate or high potential for liquefaction
Monitoring/Reporting Action	SDG&E completes geotechnical investigations and submits them to the CPUC for approval at least 60 days prior to final project design. SDG&E to provide documentation confirming that the final design incorporates geotechnical investigation results.
Effectiveness Criteria	The geotechnical design measures necessary to mitigate for liquefaction are determined, incorporated into final design, and successfully implemented.
Status	**Complete**
Review/Approval	Draft Report submitted to CPUC 11/18/16 CPUC comments submitted 12/01/16 Revised Report submitted 01/12/17 (UG) and 01/13/17 (OH) Design Verification Memo submitted 02/03/17 CPUC approval 02/17/16
APM/Mitigation Measure Title	**Mitigation Measure Geology-2: Geotechnical Investigation for Landslides**
Measure Text	The design-level geotechnical surveys conducted by SDG&E shall include slope stability analyses in areas of planned grading and excavation that cross and are immediately adjacent to hills and mountains. These surveys shall

Category	Measure Requirement/Application
	acquire data that shall allow identification of specific areas with the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in other areas of ground disturbance, such as grading for access and spur roads. The investigations shall include an evaluation of subsurface conditions, identification of potential landslide hazards, and shall provide information for development of excavation plans and procedures. If the results of the geotechnical survey indicate the presence of unstable slopes at or adjacent to Project structures, appropriate support and protection measures shall be designed and implemented to maintain the stability of slopes adjacent to newly graded or re-graded access roads, work areas, and project structures during and after construction, and to minimize potential for damage to project facilities. These design measures shall include, but are not limited to, retaining walls, visquene, removal of unstable materials, and avoidance of highly unstable areas. SDG&E shall document compliance with this measure prior to the final project design by submitting a report to the CPUC for review and approval at least 60 days before construction. The report shall document the investigations and detail the specific support and protection measures that shall be implemented.
Location	Work areas with a moderate or high potential for landslides
Monitoring/Reporting Action	SDG&E completes geotechnical investigations and submits them to the CPUC for approval at least 60 days prior to construction. SDG&E to provide documentation confirming that the final design incorporates geotechnical investigation results.
Effectiveness Criteria	The geotechnical design measures necessary to mitigate for landslides are determined, incorporated into final design, and successfully implemented.
Status	**Complete**
Review/Approval	Draft Report submitted to CPUC 11/18/16 CPUC comments submitted 12/01/16 Revised Report submitted 01/12/17 (UG) and 01/13/17 (OH) Design Verification Memo submitted 02/03/17 CPUC approval 02/17/16
APM/Mitigation Measure Title	**Mitigation Measure Geology-3: Assess Potential for Collapsible and Expansive Soils**
Measure Text	The design-level geotechnical surveys shall identify areas with potentially expansive or collapsible soils and include appropriate design features, including excavation of potentially expansive or collapsible soils during construction and replacement with engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils. Studies shall conform to industry standards of care and American Society for Testing and Materials standards for field and laboratory testing. Study results and proposed solutions shall be provided to the CPUC for review and approval at least 60 days before construction. The report shall document the investigations and detail the specific support and protection measures that shall be implemented.
Location	All structures within collapsible and expansive soils
Monitoring/Reporting	SDG&E completes geotechnical investigations and submits to the CPUC for

Category	Measure Requirement/Application
Action	approval at least 60 days prior to construction. SDG&E to provide documentation confirming that the final design incorporates geotechnical investigation results.
Effectiveness Criteria	The geotechnical design measures necessary to mitigate for collapsible and expansive soils are determined, incorporated into final design, and successfully implemented.
Status	**Complete**
Review/Approval	Draft Report submitted to CPUC 11/18/16 CPUC comments submitted 12/01/16 Revised Report submitted 01/12/17 (UG) and 01/13/17 (OH) Design Verification Memo submitted 02/03/17 CPUC approval 02/17/16
APM/Mitigation Measure Title	**APM GEO-1: Seismic Standards**
Measure Text	Design and construction of overhead facilities would conform to CPUC General Order 95, industry practice, and SDG&E internal structural design requirements to minimize damage from seismic shaking.
Location	Along overhead segments
Monitoring/Reporting Action	SDG&E to provide documentation confirming design and construction of overhead facilities conforms to CPUC General Order 95, industry practice and SDG&E structural design requirements.
Effectiveness Criteria	Design and construction of overhead facilities will minimize damage from seismic shaking.
Status	**Complete.** Design Verification Memo submitted 11/18/16.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure GHG-1: Disposal of Organic Matter**
Measure Text	In accordance with requirements in Assembly Bill 1826, SDG&E shall dispose of organic waste (defined in PRC Section 42649.8(c) as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) removed on and after April 1, 2016 by means other than transporting to a landfill if the amount of organic waste meets or exceeds eight cubic yards per week. On and after January 1, 2017, SDG&E shall dispose of organic waste by means other than transporting to a landfill if the amount of organic waste meets or exceeds four cubic yards per week. Options for non-landfill disposal may include composting on previously disturbed SDG&E land, self-hauling organic waste for recycling, or participating in a greenwaste recycling program in accordance with subdivision (b) of AB 1826. SDG&E shall notify the CPUC of the disposal method at least 30 days prior to construction.
Location	All organic waste collection locations
Monitoring/Reporting Action	SDG&E to provide notification of organic waste disposal method to CPUC at least 30 days prior to construction.

APPENDIX B
PRE-CONSTRUCTION MITIGATION MEASURES AND APMS

Category	Measure Requirement/Application
Effectiveness Criteria	SDG&E complies with AB 1826.
Status	**Complete** for Staging Yards.
Review/Approval	Compliance Memo submitted 12/07/16.
APM/Mitigation Measure Title	**Mitigation Measure Hazards-2: Spill Prevention, Control, and Countermeasure Plan**
Measure Text	As part of the Safety and Environmental Awareness Program (SEAP), SDG&E shall prepare a site-specific Spill Prevention, Control, and Countermeasure (SPCC) Plan for sites that are subject to the SPCC program (e.g., sites where the total aggregate capacity of aboveground oil storage containers exceeds 1,320 gallons) that will identify spill prevention and response measures, systems, and devices. The plan will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest water bodies). An SDG&E-designated representative shall be identified to ensure that all hazardous materials and safety plans are followed throughout the construction period. Best Management Practices (BMPs) identified in the project Stormwater Pollution Prevention Plan (SWPPP) and spill prevention and response measures identified in the SPCC Plan shall be implemented during project construction to minimize the risk of an accidental release and to provide the necessary information for emergency response. A copy of the project SEAP shall be submitted to the CPUC at least 30 days prior to construction. All construction personnel shall be required to attend SEAP training prior to conducting any work on the project site. Training attendance sheet(s) shall be submitted to the CPUC on a monthly basis.
Location	All work areas where oil (e.g., fuel oil) is stored in excess of 1,320 gallons in 55 gallon or larger containers.
Monitoring/Reporting Action	SDG&E shall submit a SPCC Plan to the CPUC at least 30 days prior to construction for sites that are subject to the SPCC program. SDG&E shall prepare and submit SEAP training materials to the CPUC at least 30 days prior to construction and shall submit attendance sheets to the CPUC on a monthly basis.
Effectiveness Criteria	Proper storage, handling, and spill containment and control measures are implemented as needed.
Status	**N/A**. SPCC not required. **SEAP Complete.** Refresher training program implemented September 9, 2017.
Review/Approval	SEAP submitted to CPUC 12/05/16 Refresher training material submitted to CPUC 09/09/17 CPUC reviewed and approved SEAP 12/09/16 Refresher training reviewed and approved 090717
APM/Mitigation Measure Title	**Mitigation Measure Hazards-3: Hazardous Substance Control and Emergency Response Plan**
Measure Text	SDG&E shall prepare and incorporate methods and techniques to minimize the exposure of the public to potentially hazardous materials during all phases of project construction and post-construction operation into a Hazardous Substance Control and Emergency Response Plan (HSCERP). The HSCERP shall

Category	Measure Requirement/Application
	be submitted to CPUC for recordkeeping at least 30 days prior to project construction. The HSCERP measures shall require implementation of appropriate control methods and approved containment (e.g., use of partial or total enclosures, hazardous material handling methods and employee training, ventilation requirements) and spill control practices for construction and on-site hazardous material storage. All hazardous materials and hazardous wastes shall be handled, stored, and disposed of in accordance with all applicable regulations by personnel qualified to handle hazardous materials. With the exception of wood poles, the plan shall specify that all hazardous materials shall be collected and stored in project-specific containers until they are transported to an appropriately licensed and permitted waste disposal facility. Wood poles shall be transported off site once removed from the ground and temporarily stored in project-specific containers at an SDG&E facility. As containers are filled, poles shall be transported to an appropriately licensed Class I landfill or the compost-lined portion of a solid waste landfill. The HSCERP measures shall also include, but not be limited to, the following: • Proper disposal of contaminated soils • Daily inspection of vehicles and equipment parking near sensitive resource areas during construction and spill containment procedures • Emergency response and reporting procedures to address hazardous material releases • Adequate operation and safety buffering and grounding measures • Fueling of any vehicles, equipment, and helicopters in staging yards or on streets paved with secondary containment and away from sensitive resource areas (e.g., preserves, designated open space areas, conserved habitat) The measures shall specify that emergency spill supplies and equipment shall be available to respond in a timely manner if an incident should occur. Response materials such as oil-absorbent material, tarps, and storage drums shall be available at the project site at all times during construction and shall be used as needed to contain and control any minor releases.
Location	All locations where hazardous materials are stored or handled and where construction vehicles and equipment are used
Monitoring/Reporting Action	SDG&E submits the HSCERP defining methods and techniques to minimize public exposure to hazardous materials at least 30 days prior to construction. Verify the HSCERP contains the minimum requirements listed in the measure.
Effectiveness Criteria	The exposure of the public to potentially hazardous materials is minimized.
Status	**Complete**
Review/Approval	Draft submitted to CPUC 10/14/16 CPUC comments provided 10/24/16 Draft revisions submitted 11/02/16 CPUC approval 11/08/16
APM/Mitigation Measure Title	**Mitigation Measure Hazards-4: Uncover Existing Utility Pipelines**
Measure Text	SDG&E shall excavate ("pothole") to the top of any buried existing utilities, including pipelines, that are located within 10 feet of a proposed excavation (e.g., pole foundation, retaining wall footing, duct bank, or vault structure) to

Category	Measure Requirement/Application
	verify the location of the existing utility prior to initiating excavation work. Potholing work shall be performed using a non-destructive method (e.g., air vacuum extraction) that will not damage an existing pipeline once it is encountered. Potholing work shall be conducted under the oversight of a representative of the appropriate utility company. Potholing shall reveal the top of the pipeline only and shall not go any deeper than the top of the pipe so as to not damage the pipe in any way. Two potholes shall be excavated at each associated foundation location so that the orientation of existing pipelines can be verified. Potholes shall be backfilled with stockpiled soil once the location and orientation of the pipeline has been verified and marked. The utility company representative shall verify and approve that backfill and compaction of the potholes has been performed adequately. If the pipeline is located within the footprint of a proposed pole foundation, no pole foundation excavation work shall commence until SDG&E and CPUC have been notified and the pole location has been relocated sufficiently far away from the buried pipeline.
Location	Where excavation is located within 10 feet of a buried utility line
Monitoring/Reporting Action	Verify that potholing is properly implemented and underground utilities are properly marked. SDG&E and CPUC are notified of conflicts with utilities and proposed pole relocations.
Effectiveness Criteria	Buried utilities are avoided by the overhead transmission line structures and buried utilities are avoided or relocated along the underground transmission line.
Status	**Complete**
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Hazards-5: Soil and Groundwater Testing**
Measure Text	Soil samples shall be taken from representative sampling locations prior to construction excavation near any open hazardous materials site and shall be tested to determine the presence and extent of hazardous materials. The sampling and testing plan shall be prepared and conducted by an appropriate California licensed professional and sent to a California Certified laboratory. Soil and groundwater samples shall be tested at a California Certified Laboratory. A report documenting the areas proposed for sampling, and the process to be used for sampling and testing shall be submitted to the CPUC for review and approval at least 60 days before construction. Results of the laboratory testing and recommended resolutions for handling of excavation material found to exceed regulatory requirements shall be submitted to the CPUC 30 days prior to construction. In the event that soils to be excavated are found to be contaminated, the excavated soil shall be treated as hazardous materials and disposed of in compliance with state and federal regulations and SDG&E operational procedures. Effective dust suppression procedures will be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the State of California (DTSC or RWQCB) and San Diego County shall be contacted by SDG&E or its contractor to plan handling, treatment, and/or disposal options.
Location	Areas of known hazardous materials sites

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Monitoring/Reporting Action	A soils and groundwater testing plan is submitted to the CPUC for approval at least 60 days prior to construction. Testing results and recommended resolutions submitted to CPUC at least 30 days prior to construction. Verify representative sampling and testing has been completed on soils within open hazardous materials sites. Verify agencies are appropriately notified if hazardous materials are encountered.
Effectiveness Criteria	All contaminated soils are properly excavated and disposed of in accordance with state and federal law.
Status	**Complete**
Review/Approval	Memo submitted to CPUC 11/11/16 CPUC approval 11/21/16
APM/Mitigation Measure Title	**Mitigation Measure Hazards-6: Unexploded Ordnance Investigation**
Measure Text	As part of the NEPA review and Tier 1 application process required for construction within MCAS Miramar, SDG&E shall comply with Naval Sea Systems Command (NAVSEA) OP 5 safety requirements for shore-based operations. SDG&E shall perform a survey of identified Formerly Used Defense Sites (FUDS) database sites prior to the start of construction to identify potential unexploded ordnance locations. SDG&E shall obtain a trained contractor for the pre-construction survey, personnel training, and removal of all unexploded ordnance that are found in the Project area. An unexploded ordnance investigation of known and potential areas used by the military along the ROW shall be undertaken by a trained contractor. If unexploded ordnance are found, they shall be removed by the trained contractor. To comply with NAVSEA OP 5 requirements, all personnel involved in excavation, grading, or ROW clearing shall be educated by the trained contractor to recognize unexploded ordnance.
Location	All project locations that have the potential for discovery of unexploded ordnance hazards (work areas within MCAS Miramar)
Monitoring/Reporting Action	Verify investigation for potential unexploded ordnance locations has been performed and workers have been properly trained to recognize unexploded ordnance.
Effectiveness Criteria	Unexploded ordnance from work areas and vicinity are safely removed.
Status	**Investigation Complete** **Training Complete.** Training Logs were submitted to CPUC monthly.
Review/Approval	Investigation Report submitted to CPUC 02/07/17
APM/Mitigation Measure Title	**Mitigation Measure Hazards-7: Induced Current Touch Study**
Measure Text	SDG&E shall identify both aboveground and underground objects (e.g., metal fences or buried metal utility lines) in the vicinity of the proposed 230-kV transmission line that may potentially present a shock hazard to the public, due to induced currents or voltages. SDG&E shall prepare an Induced Current Touch study that evaluates the conductive and inductive interference effects of the proposed 230-kV transmission line on the identified objects. The Induced Current Touch study shall model the conductive objects using the maximum

Category	Measure Requirement/Application
	anticipated voltage for the proposed 230-kV line and shall consider the construction details for the transmission line. The study shall also construct a model using fault conditions. The maximum acceptable touch voltage under steady-state conditions is 15 volts and the threshold for fault conditions is specified in ANSI/IEEE Standard 80. In the event that the modeled induced current voltage of a conductive objective exceeds maximum touch voltage thresholds, SDG&E shall install grounding or other appropriate measures to protect the public from hazardous shocks. The Induced Current Touch study shall include the model voltage results of conductive objects prior to implementation of grounding measures and after implementation of grounding measures. 60 days prior to commencing construction, SDG&E shall provide the Induced Current Touch study to the CPUC, for review. The Induced Current Touch study shall include the criteria and approach that was used to determine what facilities could present a shock, the results of the model prior to implementation of grounding measures, details of the grounding or other measures to be installed, and the results of the model after implementation of the grounding measures.
Location	All aboveground and underground transmission lines in the vicinity of underground conductive objects
Monitoring/Reporting Action	The Induced Current Touch study is provided to the CPUC for review at least 60 days prior to construction.
Effectiveness Criteria	Touch voltage does not exceed ANSI/IEEE Standard 80 (15 volts under steady state conditions).
Status	**Complete** Underground Study **Approved** Overhead Study **Approved** AT&T notified SDG&E of presence of copper telecommunication lines after construction began. Additional modeling of potential induced current on AT&T copper lines was provided by SDG&E. AT&T performed safety testing prior to energization. Additional safety testing will be done within 2 weeks after energization to verify no unsafe levels of induced voltage occur.
Review/Approval	Draft Underground Study (UG) submitted to CPUC 11/01/16 CPUC provided UG comments 11/21/16 Revised Draft UG submitted to CPUC 12/08/16 CPUC UG approval 12/13/16 Draft #1Overhead Study (OH) submitted to CPUC 01/18/17 CPUC provided OH comments 02/15/17 Draft #2 OH submitted 05/12/17 CPUC commented 05/22/17 Draft #3 OH submitted 06/14/17 CPUC OH approved 06/21/17 CPUC reviewed ARK modeling reports 06/15/2018, 06/20/2018 and 07/13/2018 CPUC verified SDG&E compliance with MM Hazards-7 on 07/31/2018

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**APM HAZ-1: Safety and Environmental Awareness Program**
Measure Text	SDG&E will prepare a Safety and Environmental Awareness Program (SEAP) for project personnel. The SEAP may include training for relevant topics such as: • General safety procedures • General environmental procedures • Fire safety • Biological resources • Cultural resources • Paleontological resources • Hazardous materials protocols and BMPs • SWPPP
Location	All work areas
Monitoring/Reporting Action	SDG&E shall prepare a SEAP. Verify the SEAP includes all necessary training topics and workers receive training prior to construction.
Effectiveness Criteria	All personnel receive safety and environmental awareness training.
Status	**Presentation Complete**. Refresher training program implemented September 9, 2017. **Training Complete**
Review/Approval	SEAP Submitted to CPUC 12/05/16 Refresher training material submitted to CPUC 09/09/17 CPUC SEAP reviewed and approved 12/09/16 Refresher training reviewed and approved 090717
APM/Mitigation Measure Title	**Mitigation Measure Hydrology-1: SWPPP and Treatment of Shallow Groundwater Discharge**
Measure Text	SDG&E shall prepare a Stormwater Pollution Prevention Plan in compliance with the State Water Resources Control Board (SWRCB) Construction General Permit CAS000002 (Order No. 2012-0006-DWQ) and City of San Diego Stormwater Standards Manual (2012). Project construction plans and the SWPPP shall be submitted to the CPUC and the City of San Diego for review and approval prior to construction. The SWPPP shall address erosion and sedimentation control, groundwater dewatering procedures, hazardous materials identification, handling, disposal and emergency spill procedures, and any other best management procedures necessary to prevent sediment or contaminants from entering Los Peñasquitos Creek. Groundwater extracted during construction dewatering shall not be discharged to any surface waters or storm drains. If dewatering is necessary, the water shall either be used: (i) to irrigate upland areas, (ii) for dust control, or (iii) as makeup for a construction process (e.g., concrete production). If dewatering of contaminated groundwater is necessary, the water shall be disposed of in accordance with all applicable laws and procedures described in the SWPPP.
Location	All project work areas
Monitoring/Reporting	SDG&E prepares the SWPPP in compliance with the SWRCB Construction

Category	Measure Requirement/Application
Action	General Permit, and the CPUC and City of San Diego approve the SWPPP prior to construction
Effectiveness Criteria	Sediment and erosion is controlled in compliance with the Project's SWPPP. Groundwater dewatering and spill clean-up procedures comply with all applicable laws.
Status	**Complete**
Review/Approval	Submitted to CPUC 11/21/16 and the City of San Diego 11/30/16 CPUC provided comments 12/02/16 and 12/08/16 City declined to comment Revised Draft submitted 12/12/16 CPUC approval 12/16/16
APM/Mitigation Measure Title	**Mitigation Measure Hydrology-5: Protection from Scour**
Measure Text	At locations where the buried power line is to be at or adjacent to a stream bed capable of scour, the power line shall be located below the expected depth of scour from a 100-year flood, or otherwise protected from exposure by scour which, for purposes of this mitigations measure, also includes lateral (streambank) erosion and potential scour associated with flows overtopping or bypassing a culvert or bridge crossing. During final design, a registered civil engineer with expertise in hydrology, hydraulics, and river mechanics shall make a determination of where the underground line could be at risk of exposure through scour or erosion from a 100-year event. Plans for burying the line below the 100-year scour depth, or otherwise protecting the line from erosion, shall be submitted to CPUC for review and approval prior to construction.
Location	Underground transmission line crossings of streams within 100-year flood zone
Monitoring/Reporting Action	SDG&E to submit documentation to CPUC for approval prior to construction confirming that final design incorporates recommendations of civil engineer with expertise in hydrology, hydraulics, or river mechanics for buried transmission lines near streams within the 100-year flood zone.
Effectiveness Criteria	Underground transmission line is located at sufficient depth to prevent scour.
Status	**Complete**
Review/Approval	SDG&E submitted the Scour Evaluation Memorandum to CPUC on 11/17/16 CPUC approved the Scour Evaluation Memorandum 12/1/16
APM/Mitigation Measure Title	**Mitigation Measure Noise-1: Resident Notification and Complaints**
Measure Text	SDG&E shall provide notice by mail at least 1 week prior to construction activities to all sensitive receptors and residences within 500 feet of construction sites, staging yards, and access roads, and within 1,000 feet of helicopter fly yards and flight paths. SDG&E shall also post notices in public areas, including recreational use areas, within 300 feet of the project alignment and construction work areas. The announcement shall state where and when construction will occur in the area. For areas that would be exposed to helicopter noise, the announcement shall provide details on the schedule of

<table>
<tr><th>Category</th><th>Measure Requirement/Application</th></tr>
<tr><td></td><td>the dates, times, and duration of helicopter activities. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction.

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. SDG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person shall be included in the above notices and also posted conspicuously at the construction site(s). SDG&E shall address all complaints within 1 week of when the complaint is filed. SDG&E shall provide monthly reports with records of complaints and responses to the CPUC. These reports shall be provided to CPUC within 15 days of the end of the month.</td></tr>
<tr><td>Location</td><td>All areas within 1,000 feet of a helicopter fly yard and within 500 feet of construction work areas</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify residents and sensitive receptors were notified at least 1 week prior to start of construction and that all notifications are properly posted.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Residents are successfully notified prior to start of construction and are provided information to reduce noise intrusion and impacts.</td></tr>
<tr><td>Status</td><td>Complete. Notice was sent to residents and sensitive receptors located within 1,000 feet of all Project components on the following dates:

<table><tr><td>12/09/16</td><td>01/24/17</td><td>05/10/17</td><td>06/13/17</td></tr><tr><td>06/30/17</td><td>08/24/17</td><td>10/10/17</td><td>10/27/17</td></tr><tr><td>01/10/18</td><td>02/02/18</td><td>02/22/18</td><td>03/16/18</td></tr><tr><td>04/05/18</td><td>04/13/18</td><td>05/11/18</td><td>08/14/17</td></tr></table></td></tr>
<tr><td>Review/Approval</td><td>N/A</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>Mitigation Measure Paleontology-2: Note Monitoring Areas on Plans</td></tr>
<tr><td>Measure Text</td><td>All project areas that would require paleontological monitoring shall be noted on construction drawings and plans. A CPUC-approved, qualified paleontologist shall attend pre-construction meetings, as needed, to consult with the excavation and grading contractor concerning the schedule for excavations and other surface disturbance, paleontological field techniques, and safety issues.</td></tr>
<tr><td>Location</td><td>Locations requiring paleontological monitoring</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify paleontological monitoring areas are noted on construction drawings and plans. Verify paleontologist attends pre-construction meetings to consult with excavation and grading contractor.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Identification and preliminary evaluation of paleontological resources within areas of sensitivity.</td></tr>
<tr><td>Status</td><td>Complete</td></tr>
<tr><td>Review/Approval</td><td>A copy of construction drawings submitted to CPUC 02/23/17</td></tr>
</table>

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Recreation-1: Pre- and Post-Construction Report**
Measure Text	Prior to the start of construction, SDG&E shall prepare a Preconstruction Parks and Trails Condition Report that documents the existing condition of project work areas in preserves and parks (e.g., Black Mountain Ranch Community Park, Sycamore Canyon Park, Los Peñasquitos Canyon Preserve), and where multi-use trails are present in work areas, including both designated trails and unofficial trails along access roads. At a minimum, the report shall include text descriptions and accompanying photographs for each resource located in a work area. The Preconstruction Parks and Trails Condition Report shall be submitted to the CPUC no less than 30 days prior to construction. See post-construction requirements for repair of damaged parks and trails and preparation of a Post-Construction Parks and Trails Restoration Report.
Location	Locations where construction will occur within parks, preserves, multi-use trails and unofficial trails along access roads
Monitoring/Reporting Action	Preconstruction Parks and Trails Condition Report submitted to the CPUC at least 30 days prior to construction.
Effectiveness Criteria	Any damage to trails or park recreational resources is repaired to pre-construction conditions.
Status	**Pre-construction Trails Report Complete.**
Review/Approval	Pre-construction Trails Report submitted 01/31/17.
APM/Mitigation Measure Title	**Mitigation Measure Recreation-3: Maintain Access to Recreational Facilities**
Measure Text	SDG&E shall coordinate the temporary closure of any public baseball or soccer fields and parking spaces with the City of San Diego and authorized park officer at least 90 days prior to construction within a park to avoid peak use of the facilities. SDG&E shall maintain a safe pedestrian access path between the parking lot and baseball fields during construction.
Location	Locations where activities are conducted within or adjacent to public recreational facilities
Monitoring/Reporting Action	Verify SDG&E coordinates with the City of San Diego regarding temporary park closures.
Effectiveness Criteria	SDG&E will successfully coordinate park closures with the City of San Diego to minimize impacts on peak recreational use periods. Safe pedestrian access between parking lots and baseball fields will be maintained.
Status	**Complete**
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Traffic-1: Construction Transportation Management Plan**
Measure Text	SDG&E shall develop and implement a project-specific Construction Transportation Management Plan (CTMP). SDG&E shall submit the plan to CPUC for review and approval at least 30 days prior to construction. The CTMP shall conform to the California Joint Utility Traffic Control Committee's Work

Category	Measure Requirement/Application
	Area Protection and Traffic Control Manual. The CTMP shall include provisions for the following: • Implementation of standard safety practices, including installation of appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices. • Use of flaggers and/or signage to guide vehicles through or around construction zones using proper techniques for construction activities including staging yard entrance and exit. • Alternate traffic routes and the use of construction personnel carpools or shuttles to avoid roads that are operating at LOS D or lower. • Traffic detours for any road or lane closures with appropriate signage marking the detours. • Timing of worker commutes and material deliveries to avoid peak commuting hours. • Timing of lane and road closures. • Locations that would be accessed and receive material deliveries via helicopter. • Plans for construction worker parking and transportation to work sites • Methods for keeping roadways clean. • Storage of all equipment and materials in designated work areas in a manner that minimizes traffic obstructions and maximizes sign visibility. • Limiting of vehicles to safe speed levels according to posted speed limits, road conditions, and weather conditions. • Coordination with public transit providers. • Routing of trucks to avoid minor roads, where possible, to reduce congestion and potential asphalt damage. • Repair of asphalt and other road damage (e.g., curb and gutter damage, rutting in unpaved roads) caused by construction vehicles. • Detours for cyclists and pedestrians when bike lanes or sidewalks must be closed. • Abiding by encroachment permit conditions, which shall supersede conflicting provisions in the CTMP. The CTMP must at a minimum comply with the requirements of the appropriate City and must be submitted to the respective cities for review and approval at least 60 days prior to commencing construction activities.
Location	All areas of lane or road closures and roads with heavy construction vehicle use
Monitoring/Reporting Action	The CTMP is submitted to the CPUC for review and approval at least 30 days prior to construction.
Effectiveness Criteria	Traffic impacts and hazards are minimized through appropriate traffic control measures.
Status	**Complete**
Review/Approval	Submitted to CPUC 11/23/16; City 11/30/16 CPUC comments provided 12/12/16; City comments 12/13/16 Revised draft submitted to CPUC12/24/16 CPUC approval 01/01/17; City approval 01/18/17

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Traffic-2: Congested Area Plan**
Measure Text	Prior to construction, helicopter contractors shall coordinate helicopter activities for the project with the regional FAA office and obtain any required approvals to operate helicopters. FAA coordination shall include submittal of a Congested Area Plan prepared by the helicopter operator to obtain approval for the helicopter operations for all routes that would cross over "congested areas" as described in 14 CFR 133.33. The Congested Area Plan will identify anticipated work dates, a detailed description of the work to be performed, any safety hazard control measures that are required, and appropriate emergency procedures and emergency landing area(s). Helicopter contractors shall provide the CPUC with all required approvals, documents, and conditions of work prior to conducting helicopter activities for the project.
Location	All areas of helicopter activities
Monitoring/Reporting Action	Helicopter contractors shall provide the CPUC with required documentation, including a Congested Area Plan, prior to conducting helicopter activities.
Effectiveness Criteria	Air traffic hazards and conflicts are reduced through proper planning and coordination with FAA.
Status	**Complete**
Review/Approval	A Congested Area Plan was submitted to FAA for approval on 10/02/17, and was approved on 10/12/17. A revision was submitted to FAA and approved on 10/20/17. The Plan was submitted to CPUC on 10/25/17.
APM/Mitigation Measure Title	**Mitigation Measure Traffic-3: Post-Construction Road Repair**
Measure Text	Prior to construction, SDG&E shall conduct a pre-construction road condition assessment along the underground transmission line route[1] and entrances and exits to all staging yards. SDG&E shall submit the pre-construction road condition assessment to the CPUC and the local jurisdiction (e.g., City of San Diego or City of Poway). If damage to roads occurs as a result of project construction or construction vehicle traffic, SDG&E shall restore damaged roadways within 60 days after the completion of construction at their own expense under the direction of and to the construction standard of the affected local jurisdiction to ensure that impacted roads are adequately repaired.
Location	Along underground transmission line routes, and entrances and exits to all staging yards
Monitoring/Reporting	SDG&E submits pre-construction road condition assessment to the CPUC and

[1] The original measure stated Carmel Valley Road because the Proposed Project only included underground transmission line within Carmel Valley Road. The measure was intended to apply to all roads with underground transmission line within the selected alternative.

Category	Measure Requirement/Application
Action	local jurisdiction.
Effectiveness Criteria	Impacted roads are repaired to pre-existing conditions.
Status	**Pre-Construction Assessment Complete.** Staging Yard Entrance and Exit Assessment submitted to CPUC 11/29/16 Staging Yard Road Access Assessment submitted to CPUC and City 12/21/16 Remaining Road Assessment submitted to CPUC 03/07/17
Review/Approval	CPUC Staging Yard Entrance and Exit Assessment review 12/9/16 Remaining Road Assessment review 03/29/17
APM/Mitigation Measure Title	**Mitigation Measure Traffic-4: Temporary Traffic Control Measures**
Measure Text	Prior to conductor stringing, SDG&E shall determine whether a temporary road closure or temporary support measures to protect traffic, such as guard structures or netting across roadways that would catch and support the conductor above traffic, would be necessary in the event that tension control of the conductor is lost during installation. The selected temporary measures to be incorporated shall be identified on construction plans and installed by SDG&E in advance of construction and shall remain in place until the conductor is clipped into support hardware on the transmission line structures. SDG&E shall implement all traffic control procedures and measures defined in Mitigation Measure Traffic-1 during installation of temporary support measures or temporary road closure.
Location	Where conductor stringing will occur
Monitoring/Reporting Action	Temporary conductor stringing mitigation measures including netting and guard structures shall be identified on construction plans.
Effectiveness Criteria	Guard structures or netting prevents conductor from falling on vehicles or pedestrians during constructor stringing activities.
Status	**Complete.** SDG&E identified temporary conductor stringing mitigation measures on construction plans.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Traffic-5: Highway Closure Plans**
Measure Text	SDG&E shall prepare and submit to Caltrans closure plans as part of the encroachment permit application at least 30 days prior to crossings of SR-56 and I-15. The plans shall require that closure or partial closure of SR-56 and I-15 be limited to off-peak, non-daytime hours, from 10 PM to 5 AM, and that signage be posted prior to the closure to alert drivers of the closure in accordance with Caltrans requirements. Highway closure times will be reviewed and approved by Caltrans to minimize delay to SR-56 and I-15 traffic. The plan shall also outline suggested detours to use during the closures, traffic, including routes and signage. No work shall begin in Caltrans right-of-way until the encroachment permit and Highway Closure Plan are approved by Caltrans. Should emergency evacuation occur prior to or during the highway closure, the closure shall be delayed or ceased to allow unimpeded flow of traffic.

Category	Measure Requirement/Application
Location	Overhead crossing of I-15
Monitoring/Reporting Action	SDG&E submits closure plan to Caltrans and provides approved encroachment permit and closure plan to the CPUC prior to construction.
Effectiveness Criteria	The closure is implemented to minimize traffic impacts on I-15.
Status	**N/A.** SDG&E crossed the I-15 with tunneling under the interstate and did not require closure of the I-15 freeway; therefore, no Highway Closure Plan was needed.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Traffic-12: Consult with Bus and Transit Services**
Measure Text	SDG&E shall consult with the San Diego Metropolitan Transit System and City of San Diego School District at least one month prior to construction to coordinate construction activities adjacent to bus stops. If necessary, bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. SDG&E shall post notices of any temporary bus stop closure at least 14 days prior to temporary closure. The notices shall provide information on the nearest available bus stop on the bus route and the scheduled duration of closure.
Location	Where construction activities are adjacent to bus routes
Monitoring/Reporting Action	Verify SDG&E has coordinated with San Diego Metropolitan Transit System and City of San Diego School District at least 1 month prior to construction.
Effectiveness Criteria	Construction activity will be coordinated adjacent to bus stops to minimize impacts on access to public transportation.
Status	**Complete.** SDG&E met with San Diego Metropolitan Transit System (MTS) on 1/5/17 and local schools on 01/25/17, 02/03/17, 02/07/17, 02/10/17, 02/21/17, 02/22/17, 02/23/17, and 03/01/17.
Review/Approval	N/A
APM/Mitigation Measure Title	**APM TR-4: Encroachment Permits**
Measure Text	SDG&E will obtain the required encroachment permits from the City of San Diego for crossings at city streets and Caltrans for work near I-15 and Hwy 56, and will ensure that proper safety measures are in place while construction work is occurring near public roadways. These safety measures include flagging, proper signage, and orange cones to alert the public to construction activities near the roadway.
Location	All work locations within City of San Diego streets and Caltrans ROW
Monitoring/Reporting Action	SDG&E provides approved encroachment permits to the CPUC.
Effectiveness Criteria	Encroachment permits are obtained and safety measures are successfully implemented.
Status	**Complete.** Caltrans permit approved 01/29/18. No City of San Diego

Category	Measure Requirement/Application
	encroachment permits required.
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Utilities-1: Non-Potable Water Use for Dust Control**
Measure Text	The water supply for project construction activities (e.g., dust control, soil compaction) shall be obtained from non-potable sources and ensured in a water contract through a local water agency or district, except where jurisdictional or regulatory requirements restrict the use of non-potable water for a specified construction activity or during limited periods when non-potable water sources are offline and not available. SDG&E shall provide verification that water will be obtained from a non-potable source, or verification of the specific circumstances, requirements, and time frame during which potable water will be used, to the CPUC, a minimum of 60 days prior to the start of construction.
Location	All areas of earth disturbance
Monitoring/Reporting Action	SDG&E shall provide verification of the non-potable water source, or specific circumstances during which potable water will be used to the CPUC at least 60 days prior to construction.
Effectiveness Criteria	Non-potable water is used to the extent feasible.
Status	**Complete**
Review/Approval	Memo submitted to CPUC 10/14/16 CPUC approved the Technical Memorandum on 10/24/16
APM/Mitigation Measure Title	**Mitigation Measure Utilities-3: Notify Utility Companies and Adjust Underground Work Locations**
Measure Text	SDG&E shall notify all utility companies with utilities located within or crossing SDG&E ROW and franchise agreement area to locate and mark existing underground utilities along the entire length of the alignment at least 30 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, the project underground alignment shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between City of San Diego sewer mains and the underground duct bank alignment is less than 10 feet, SDG&E or its contractor shall submit the intended construction methodology to the City of San Diego Public Utilities Department Water and Sewer Development Section for review and comment at least 30 days prior to construction. Construction methods shall be adjusted as feasible, safe and consistent with good utility practice to assure that the integrity of existing sewer mains is not compromised.
Location	Areas of excavation or subsurface work
Monitoring/Reporting Action	SDG&E shall notify utility companies with utilities within or crossing SDG&E ROW prior to construction. Where the transmission line alignment will be located less than 10 feet from existing City of San Diego sewer mains, SDG&E shall submit construction plans and methodology to City of San Diego for review and comment at least 30 days prior to construction.

Category	Measure Requirement/Application
Effectiveness Criteria	Direct impacts to buried utility lines are avoided and the integrity of existing buried utilities is maintained.
Status	**Complete**
Review/Approval	SDG&E submitted the plan and profiles for the underground alignment to the City in December 2016.
APM/Mitigation Measure Title	**Mitigation Measure Utilities-4: Cathodic Protection**
Measure Text	SDG&E shall prepare an AC interference study that evaluates the AC interference effects of the proposed 230-kV transmission line on nearby parallel metallic pipelines. The study shall construct a model using the maximum anticipated voltage for the proposed 230-kV transmission line and shall consider the construction details for the transmission line, including conductor arrangement. In addition, SDG&E shall identify utility facilities in the vicinity of the proposed 230-kV transmission line that may be susceptible to corrosion due to induced currents or voltages. For all utilities identified with a corrosion potential, SDG&E shall coordinate with the owner of the utility and use data gathered in the AC interference study to determine appropriate design measures to protect the utility from corrosion such as ground mats or gradient control wires for cathodic protection of the buried utility pipelines. The study, summary of coordination with potentially affected utilities, and details of any design measures to be installed shall be submitted to the CPUC for review and approval at least 60 days prior to initiation of construction.
Location	Along the transmission line alignment
Monitoring/Reporting Action	SDG&E shall prepare an AC interference study for CPUC review and approval at least 60 days prior to construction.
Effectiveness Criteria	The AC interference study is prepared, approved, and successfully implemented to prevent corrosion.
Status	**Complete for Underground** **Complete for Overhead**
Review/Approval	SDG&E submitted the Draft Induced Current Touch Study for the underground (UG) alignment to the CPUC 11/03/16 CPUC provided UG comments 11/21/16 SDG&E submitted revised UG Study 12/08/16 CPUC approved Final UG Study 12/13/16 SDG&E submitted the Draft Induced Current Touch Study for the overhead (OH) alignment to the CPUC 01/18/17 CPUC provided OH comments 02/15/17
APM/Mitigation Measure Title	**APM PS-2: Notification of Construction**
Measure Text	SDG&E will provide the public with advance notification of construction activities. Concerns related to dust, noise, and access restrictions with construction activities will be addressed within this notification.
Location	All work areas

<table>
<tr><th>Category</th><th>Measure Requirement/Application</th></tr>
<tr><td>Monitoring/Reporting Action</td><td>SDG&E notifies the public within 1,000 feet of Project work areas by public notice mailer of construction activities prior to construction.</td></tr>
<tr><td>Effectiveness Criteria</td><td>The public is notified in advance of construction activities.</td></tr>
<tr><td>Status</td><td>Complete. Notifications mailed on the following dates:
<table>
<tr><td>12/09/16</td><td>06/13/17</td><td>0/10/18</td><td>04/13/18</td></tr>
<tr><td>01/24/17</td><td>06/30/17</td><td>02/02/18</td><td>05/11/18</td></tr>
<tr><td>01/30/17</td><td>08/24/17</td><td>02/22/18</td><td>08/14/18</td></tr>
<tr><td>03/07/17</td><td>10/10/17</td><td>03/16/18</td><td></td></tr>
</table></td></tr>
<tr><td>Review/Approval</td><td>N/A</td></tr>
</table>

APPENDIX C CONSTRUCTION MITIGATION MEASURES AND APMS

APPENDIX C
CONSTRUCTION MITIGATION MEASURES AND APMS

Table C-1 Construction Mitigation Measures and APMs

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-2: Retaining Wall Screening**
Measure Text	Retaining walls shall use blocks that accommodate plants along the wall face. The block color shall be similar in hue and value to the native soil or up to 2 shades darker. All retaining walls shall be planted with native, drought tolerant vegetation common to the area. SDG&E shall submit a retaining wall design and vegetation plan to the CPUC for review and approval. The retaining wall design shall show the planting pockets in the blocks and the color of the blocks for all project retaining walls. SDG&E shall not order or procure the blocks until CPUC approves the design and color of the blocks. The vegetation plan shall include a list of all species to be planted in the retaining walls and the container size for the plantings. Vegetation planted in the retaining walls shall be maintained and watered as needed until plant material is established. Plants that die shall be replaced with similar specimens. SDG&E shall monitor the vegetation planted in the retaining wall pockets for three years or until plants are fully established.
Location	Retaining walls
Monitoring/Reporting Action	Verify that the Retaining Wall Screening plans are properly implemented.
Effectiveness Criteria	Retaining wall and vegetation are implemented in accordance with the approved plan, and vegetation is maintained to visually screen the wall.
Status	**Complete.** Combined with Facilities Color Treatment Plan. Landscaping to follow security fence installation in March 2019.
Review/Approval	Draft #1 submitted to CPUC 02/23/17 CPUC commented 03/15/17 Draft #2 submitted to CPUC 04/21/17 CPUC commented 05/04/17 Final submitted to CPUC 05/04/17 CPUC approved Plan 05/04/17
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-3: Facilities Color Treatment Plan**
Measure Text	SDG&E shall prepare a Facilities Color Treatment Plan describing the application of colors to all new structures. The proposed color treatments shall minimize visual intrusion and contrast by matching the new structure's color to the adjacent existing structures and surroundings. Ancillary structures shall use colors that are congruent with the landscape in which they are proposed. Color treatments shall reduce new structure contrast making new structures less noticeable. The Plan shall be submitted to CPUC for review and approval at least 90 days prior to ordering the first structure to be color treated. The Facilities Color Treatment Plan shall include: • Specification, and 11 x 17 inch color simulations at real-world scale, of the treatment proposed for use on project structures from identified KOPs. Structures include TSPs, retaining wall faces, and fences for cable poles and staging areas

Category	Measure Requirement/Application
	• List of each major project structure, specifying the color and finish proposed • Two sets of brochures and/or color chips for the proposed color for each project element • A detailed schedule for completion of the treatment • A procedure to ensure proper treatment maintenance for the life of the project SDG&E shall not specify to the vendors the treatment of any structures treated during manufacture or perform the final treatment on any structures treated onsite during construction until SDG&E receives notification of approval of the Color Treatment Plan by the CPUC.
Location	All project structures
Monitoring/Reporting Action	Verify that the Facilities Color Treatment Plan is implemented.
Effectiveness Criteria	Structures use colors congruent with the landscape in which they are erected, and color treatments reduce new structure contrast.
Status	**Complete.**
Review/Approval	Draft #1 submitted to CPUC 02/23/17 CPUC commented 03/15/17 Draft #2 submitted to CPUC 04/21/17 CPUC commented 05/04/17 Final submitted to CPUC 05/04/17 CPUC approved Plan 05/04/17
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-4: Cable Pole Screening**
Measure Text	Vegetation planted around the cable pole shall be maintained and watered as needed until plant material is established. Plants that die shall be replaced with similar specimens. SDG&E shall monitor the vegetation around the cable pole until all container plants are fully established.
Location	Cable pole locations (Structures P5 and CC MM)
Monitoring/Reporting Action	CPUC verifies that SDG&E monitors vegetation for a minimum of three years.
Effectiveness Criteria	The cable poles are visually screened with drought-tolerant vegetation.
Status	**Complete.** Combined with the Facilities Color Treatment Plan. Security fence installation to occur in March 2019 and ivy to be installed then.
Review/Approval	Draft #1 submitted to CPUC 02/23/17 CPUC commented 03/15/17 Draft #2 submitted to CPUC 04/21/17 CPUC commented 05/04/17 Final submitted to CPUC 05/04/17 CPUC approved Plan 05/04/17

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Aesthetics-5: Nighttime Lighting**
Measure Text	SDG&E shall ensure that all nighttime lighting used for construction is shielded, pointed down, and directed away from surrounding properties and adjacent natural habitats.
Location	Nighttime construction areas
Monitoring/Reporting Action	Verify that nighttime lighting is pointed down.
Effectiveness Criteria	Nighttime lighting is pointed down and directed away from surrounding properties and natural habitats.
Status	**Complete**
Review/Approval	CPUC EMs verified that lighting is pointing down.
APM/Mitigation Measure Title	**APM AES-1: Visual Screening**
Measure Text	Where staging yards are visible to the public, opaque mesh or slats (or equivalent material) will be installed along the fence that will screen view of the staging yards from public vantage points, such as roads and residences.
Location	Staging yards visible to the public.
Monitoring/Reporting Action	Verify screening has been implemented at all staging yards.
Effectiveness Criteria	Staging yards are effectively screened from view at public vantage points.
Status	**Complete**
Review/Approval	Staging yards are screened.
APM/Mitigation Measure Title	**Mitigation Measure Air-1: RAQS Architectural Coating Standards**
Measure Text	All coatings, sealants, adhesives, solvents, asphalt, and architectural coatings shall be in conformance with CARB's Suggested Control Measure for Architectural Coatings, and with SDAPCD's VOC Rules 61, 66.1, 67.0, and 67.17.
Location	All coatings, sealants, adhesives, solvents, asphalt, and architectural coatings applied by SDG&E or SDG&E's contractors during construction.
Monitoring/Reporting Action	Verify that materials conform with CARB's Suggested Control Measure for Architectural Coatings, and with SDAPCD's VOC Rules 61, 66.1, 67.0, and 67.17.
Effectiveness Criteria	Approved materials are used.
Status	**Complete.** The PVC conduit was glued together with Low VOC Plastic Pipe Cement for Electric Conduit. No other architectural coatings or sealants were used.
Review/Approval	EI verified material conformed to CARB's rules.

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Air-3: Dust Control Management Plan**
Measure Text	1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period; and 2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall: a. Be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation: track-out gates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and b. Be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry out, only PM10-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances. Measures to comply with visible dust emissions restrictions could include: • Watering or applying soil stabilizers to areas with loose dust • Ceasing earthmoving activities when sustained (i.e., a period or periods of time aggregating more than 3 minutes in any 60 minute period) wind speed exceeds 20 miles per hour • Covering soil stockpiles
Location	All areas of earth disturbance and all roadways where materials transported
Monitoring/Reporting Action	Verify that visible dust does not leave the property line for more than 3 minutes in any 60-minute period.
Effectiveness Criteria	Visible dust is controlled.
Status	**Complete.** Dust was controlled at all times.
Review/Approval	CPUC EMs monitored for compliance.
APM/Mitigation Measure Title	**Mitigation Measure Air-4: Use of Tier 3 Equipment**
Measure Text	SDG&E shall use 2007 and newer diesel-powered equipment and use available construction equipment that meet a minimum of EPA Tier 3 emission standards. Equipment with an engine not compliant with the Tier 3 standard will be allowed only when the applicant (SDG&E) has performed and documented a good faith effort (due diligence) to locate Tier 3 or newer equipment in the Project vicinity (defined as within 200 miles of the Project site). Use of older equipment would be allowable following due diligence and associated documentation that no Tier 3 or newer equipment (or emissions equivalent retrofit equipment) is available for a particular equipment type. Each case shall be documented with written correspondence (or signed statement and

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	electronic mail) by the appropriate construction contractor, along with documented correspondence from at least two construction equipment rental firms providing equipment within the defined project vicinity (200 miles). Documentation of due diligence shall be submitted to CPUC staff before the non-Tier 3 compliant equipment is used on the project. The applicant shall submit as part of the weekly CPUC compliance report a log of all construction equipment used on the project including engine identification number and certified tier specification. The applicant shall provide information to CPUC on any equipment that may be used on the project prior to its use.
Location	All work areas
Monitoring/Reporting Action	SDG&E submits weekly logs of vehicle usage. The CPUC reviews the weekly equipment logs.
Effectiveness Criteria	Diesel construction equipment rated greater than 50 hp will be 2007 and newer or of Tier 3 or higher efficiency.
Status	**Complete.** Tier 3 excavators for digging bore pits for the I-15 underground crossing were unavailable. Otherwise all equipment on site was rated Tier 3 or higher.
Review/Approval	Equipment lists verifying compliance were submitted to CPUC monthly.
APM/Mitigation Measure Title	**APM AIR-2: Vehicle and Equipment Exhaust Controls**
Measure Text	All equipment shall be properly tuned and maintained in accordance with manufacturer specifications. An Idling Restrictions Program shall be implemented. SDG&E or its contractor shall maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall have their engines turned off after 5 minutes when not in use. Construction activities shall be phased and scheduled to avoid emissions peaks, and equipment use shall be curtailed during second-stage smog alerts. This will also result in a significant decrease in impacts from Diesel Particulate Matter. All areas where construction vehicles are typically parked, staged, or operating shall be visibly posted with signs stating "No idling in excess of 5 minutes." Catalytic converters shall be installed on all heavy construction equipment, where feasible. To the extent possible, power shall be obtained from power or distribution poles (i.e., from the electrical grid) rather than through the use of large generators on-site. Deliveries shall be scheduled during off-peak traffic periods to reduce trips during the most congested periods of the day, where feasible. SDG&E would encourage carpooling to reduce worker trips where feasible. Construction sites shall be posted with signs providing a contact number for complaints. All complaints shall be addressed in a timely and effective manner.
Location	All equipment use areas
Monitoring/Reporting Action	Verify that equipment is not idling for longer than 5 minutes, and signs are properly posted.
Effectiveness Criteria	Equipment does not idle for more than 5 minutes, and all complaints are addressed in a timely and effective manner.
Status	**Complete.** Staging areas were posted with restricted idling signs.

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Review/Approval	CPUC EMs verified equipment not idling longer than 5 minutes and signs were posted.
APM/Mitigation Measure Title	**Mitigation Measure Biology-1a: General Field Personnel Behavior Requirements**
Measure Text	All field personnel shall abide by the following general behavior requirements: • Vehicles must be kept on approved access roads. A 15 mile-per-hour speed limit shall be observed on dirt access roads. Vehicles shall be turned around in established or designated areas only. • No wildlife, including rattlesnakes, may be harmed, except to protect life and limb. • Firearms shall be prohibited except for those used by security personnel. • Feeding of wildlife shall not be allowed. • SDG&E personnel shall not bring pets to work areas in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive domestic animal diseases to native wildlife populations. • Parking or driving underneath oak trees shall not be allowed in order to protect root structures except in established traffic areas. • Plant or wildlife species shall not be collected for pets or any other reason. • Littering shall not be allowed. SDG&E shall not deposit or leave any food or waste in any work area. • Wildfires shall be prevented or minimized by exercising care when driving and by not parking vehicles where catalytic converters can ignite dry vegetation. In times of high fire hazard, trucks shall carry water and shovels, or fire extinguishers in the field. The use of shields, protective mats, or other fire prevention methods shall be used during grinding and welding to prevent or minimize the potential for fire. Care shall be exhibited when smoking in permitted areas. Smoking is not permitted within the City of San Diego Open Space. • Field crews shall refer environmental issues including wildlife relocation, dead or sick wildlife, hazardous waste, or questions about avoiding environmental impact to a biologist(s) approved by the CPUC and the USFWS and CDFW. Other CPUC- and USFWS- or CDFW-biologists or experts in wildlife handling may need to be brought in for assistance with wildlife relocations.
Location	All work areas
Monitoring/Reporting Action	Verify that personnel follow the requirements.
Effectiveness Criteria	All personnel follow the standards specified in the measure.
Status	**Complete**
Review/Approval	CPUC EMs verified that requirements were followed.
APM/Mitigation Measure Title	**Mitigation Measure Biology-1b: Environmental Training Program**
Measure Text	An environmental training program shall be developed and presented to all crew members prior to the beginning of all project construction. The training shall describe special-status plant and wildlife species and sensitive habitats

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	that could occur within project work areas, protection afforded to these species and habitats, and avoidance and minimization measures required to avoid and/or minimize impacts from the project. Penalties for violations of environmental laws shall also be incorporated into the training session. Each crewmember shall be provided with an informational training handout and a decal to indicate that he/she has attended the training. The roles and responsibilities of CPUC-, USFWS-, and CDFW-approved biologist(s) and other environmental representatives shall be identified in the Mitigation Monitoring, Compliance, and Reporting Program and discussed during the training. All new construction personnel shall receive this training before beginning work on this project. A copy of the training and training materials shall be provided to CPUC for review and approval at least 30 days prior to the start of construction. Training logs and sign-in sheets shall be provided to CPUC on a monthly basis. As needed, in-field training shall be provided to new on-site construction personnel by the environmental compliance supervisor or a qualified individual who shall be identified by SDG&E's Project Biologist, or initial training shall be recorded and replayed for new personnel.
Location	All work areas
Monitoring/Reporting Action	Verify that all crew members have received training through review of training logs and worker decals.
Effectiveness Criteria	All workers have received a CPUC-approved environmental training program prior to working on the site.
Status	**Complete.** As of project energization on August 29, 2018, a total of 1,955 personnel completed SEAP training**.**
Review/Approval	CPUC EMs noted construction personnel had stickers on their hard hats.
APM/Mitigation Measure Title	**Mitigation Measure Biology-1c: Pre-Activity Surveys**
Measure Text	*Applicable to construction:* In order to ensure that habitats are not inadvertently impacted, the CPUC-, USFWS-, and CDFW-approved biologist shall flag boundaries of habitat which must be avoided. When necessary, the CPUC-, USFWS-, and CDFW-approved biologist shall also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the CPUC-, USFWS-, and CDFW-approved biologist shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project site-specific basis. Avoidance of habitat for thread-leaved brodiaea is prioritized over minimization and mitigation. SDG&E shall maintain a library of special-status plant species locations, known to SDG&E, occurring within the project BSA. "Known" means a verified population either extant or documented using record data. Information on known sites may come from a variety of record data sources including local agency Habitat Conservation Plans, pre-activity surveys, or biological surveys conducted for environmental compliance of the project. Plant inventories shall be consulted as part of pre-activity survey procedures.
Location	Habitats for avoidance

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Monitoring/Reporting Action	Verify that sensitive habitats are flagged for avoidance.
Effectiveness Criteria	Workers and equipment avoid sensitive habitats including habitat for thread-leaved brodiaea and vernal pools. SDG&E maintains a database of special-status plant locations.
Status	**Complete.** Sensitive habitats were flagged.
Review/Approval	Verified in the field by EM.
APM/Mitigation Measure Title	**Mitigation Measure Biology-1d: Maintenance, Repair, and Construction of Facilities**
Measure Text	SDG&E shall implement the following measures pertaining to maintenance, repair, and construction of facilities: 1. Maintenance, repair and construction activities shall be designed and implemented to minimize new disturbance, erosion on manufactured and other slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. 2. *See operation and maintenance.* 3. Erosion shall be minimized on access roads and other locations primarily with water bars. The water bars are mounds of soil shaped to direct flow and prevent erosion. 4. Hydrologic impacts shall be minimized through the use of state-of-the-art technical design and construction techniques to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water by use of Best Management Practices. 5. *See pre-construction.* 6. During repair or maintenance of facilities in a streambed, water may be temporarily diverted as long as the natural drainage patterns are restored after disturbance to minimize the impact of the disturbances and to help re-establish or enhance the native habitat. Erosion control during construction in a streambed in the form of intermittent check dams and culverts shall also be considered to prevent alteration to natural drainage pattern and prevent siltation. 7. Impact to wetlands shall be minimized by avoiding pushing soil or brush into washes or ravines. 8. During work on facilities, all trucks, tools, and equipment shall be kept on existing access roads or cleared areas, to the extent possible. 9. *See pre-construction.* 10. *See operation and maintenance.* 11. *See operation and maintenance.* 12. In the event that a special-status plant species is located within the area required to be cleared for fire protection purposes, SDG&E shall notify the USFWS (for ESA-listed plants), and CDFW (for CESA-listed plants), in writing, of the plant's identity and location and of the proposed activity, which will result in a take of such plant. Notification shall occur ten working days prior to such activity, during which time USFWS or CDFW may remove such plant(s). If neither USFWS nor CDFW have removed such plant(s) with the ten working days following the notice, SDG&E may proceed to complete its fire clearing and cause a take of such plant(s) consistent

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	with SDG&E's take coverage for the ESA- or CESA-listed plants. When fire clearing is necessary in instances other than around power poles, and the potential for impacts to special-status species exist, SDG&E shall follow the pre-activity survey and notification procedures in Mitigation Measure Biology-1c, above. Wire stringing shall be allowed year-round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and vehicles remain on access roads. 13. Maintenance of cut and fill slopes shall 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. *14. See operation and maintenance.* *15. See pre-construction.* 16. No new facilities and activities shall be planned that would disturb vernal pools, their watersheds, or impact their natural regeneration. Continued historic maintenance of existing infrastructure utilizing existing access roads shall be allowed to continue in areas containing vernal pool habitat, provided no such habitat located within these roads would be impacted by project activities. New construction of overhead infrastructure which spans vernal pool habitats shall be allowed as long as the placement of facilities or the associated construction activities in no way impact the vernal pools. 17. If any previously unidentified dens, burrows, nests, or special-status plants are located on any project site after the pre-activity survey, the CPUC-, USFWS-, and CDFW-approved biologist shall be contacted. The CPUC-, USFWS- and CDFW-approved biologist shall determine how to best avoid or minimize impacting the resource by considering such methods as project or work plan redevelopment, equipment placement or construction method modification, seasonal/time of day limitations, etc. 18. The CPUC-, USFWS-, and CDFW-approved biologist(s) shall conduct monitoring as recommended in the pre-activity survey report. At completion of work, the CPUC-, USFWS-, and CDFW-approved biologist(s) shall check to verify compliance, including observing that flagged areas have been avoided and that reclamation has been properly implemented. Also at completion of work, the CPUC-, USFWS-, and CDFW-approved biologist(s) shall be responsible for removing all habitat flagging from the construction site. *19. See operation and maintenance.* 20. Supplies or equipment where wildlife could hide (e.g., pipes, culverts, pole holes) 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 animals cannot be removed, shall be capped or otherwise covered at the end of each work day to avoid animal entrapment. Old piping or other supplies that have been left open shall not be capped until inspected and any species found in them allowed to escape. Ramping shall be provided in open trenches when necessary. If an animal is found entrapped in supplies or equipment, such as a pipe section, the supplies or equipment shall be avoided and the animal(s) left to leave on its own accord, except as otherwise authorized by the CPUC-, USFWS- and CDFW-approved biologist. Refer to Mitigation Measure 1a, Item 10 for wildlife relocations.

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	21. 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 CPUC, USFWS-, and CDFW-approved biologist(s) shall be called immediately to remove it if it cannot escape unimpeded. 22. Large amounts of fugitive dust could interfere with photosynthesis. Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities shall be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 miles per hour. 23. *See operation and maintenance.*
Location	All work areas within or near natural habitats
Monitoring/Reporting Action	Verify that crews implement the requirements in the measure, including monitoring for special-status species and inspections of trenches and equipment for wildlife.
Effectiveness Criteria	All requirements included in the measure are implemented by crews during construction.
Status	**Complete**
Review/Approval	CPUC EMs confirmed measures were implemented.
APM/Mitigation Measure Title	**Mitigation Measure Biology-1e: Maintenance of Access Roads**
Measure Text	Maintenance of access roads shall consist of: 1. Repairing erosion by grading, adding fill, and compacting it. In each case of repair, the total area of disturbance shall be minimized by careful access and use of appropriately sized equipment. Repairs shall be done after pre-activity surveys conducted by the CPUC-, USFWS-, and CDFW-approved biologist(s). 2. Controlling vegetation through grading, which shall be used only where the vegetation obscures the inspection of facilities, access may be entirely lost, or the threat of facility failure or fire hazard exists. The graded access road width shall not exceed 12 feet on straight portions (radius turns may be slightly wider). 3. Maintenance work on access roads shall not expand the existing road bed. 4. Material for filling in road ruts shall never be obtained from the sides of the road, which contain habitat, without approval from CPUC-, USFWS-, and CDFW-approved biologist.
Location	SDG&E access roads
Monitoring/Reporting Action	Verify that road work grading/maintenance is conducted within the existing road width and does not expand the existing road bed.
Effectiveness Criteria	Road work/improvements do not expand the existing road width and do not affect adjacent roadway habitat areas.

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Status	**Complete.** Minor maintenance was done on a small segment of road adjacent to CC MM CP, and maintenance was done on the access road to P03.
Review/Approval	**N/A**
APM/Mitigation Measure Title	**Mitigation Measure Biology-1g: Survey Work Protocols**
Measure Text	SDG&E shall implement the follow measures during survey work: 1. Brush clearing for foot path or line-of-sight cutting shall not be allowed from February through September without prior approval from the CPUC-, USFWS-, and CDFW-approved biologist, who will ensure the brush clearing activity, does not adversely affect a special-status species or nesting birds. 2. SDG&E survey personnel shall keep vehicles on existing access roads. No clearing of brush shall be allowed from February through September without prior approval from the CPUC-, USFWS-, and CDFW-approved biologist, who will ensure the brush clearing activity, does not adversely affect a special-status species or nesting birds. Hiking off roads or paths for survey data collection shall be allowed year round as long as other protocols are met.
Location	Access routes and roads
Monitoring/Reporting Action	Verify brush clearing on access routes and roads does not occur from February through September without prior approval. Verify vehicles are kept on access roads.
Effectiveness Criteria	Special-status species and nesting birds are not adversely affected by brush clearing activities or construction access.
Status	**Complete.** Most brush clearing was done outside of the nest season in 2017. Clearing done between February and September 2017 was monitored by approved biologists. Additional monitored cleaning occurred in July 2017. No brush clearing was done in 2018.
Review/Approval	**N/A**
APM/Mitigation Measure Title	**Mitigation Measure Biology-3: Weed Control Plan**
Measure Text	*See pre-construction table (Appendix B) for information on weed control plan requirements.* The Weed Control Plan shall include the following: • A pre-construction weed inventory shall be conducted by surveying the entire ROW and areas immediately adjacent to the ROW where access permission is obtained, as well as at all ancillary facilities associated with the Project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner, MCAS Miramar (for ROW on MCAS Miramar), or City of San Diego (for ROW within the City of San Diego MHPA) as being a priority for control, (2) are weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory (online) Database (Cal-IPC 2006 [and 2007 update]; http://www.cal-ipc.org/ip/inventory/index.php) or are weed

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	species of concern to MCAS Miramar (for ROW on MCAS Miramar), and (3) aid and promote the spread of wildfires in San Diego County. Prolific wildfire promoting species such as brome grasses (*Bromus* sp.) shall be mapped but not targeted for control outside of Project impact areas. These populations shall be mapped and described according to density and area covered. These plant species shall be treated prior to construction or at a time when treatments would be most effective based on phenology according to control methods and practices for invasive weed populations included in the Weed Control Plan or required by MCAS Miramar or City of San Diego. • Weed control treatments shall include all legally permitted methods to be used in the following prioritized order: preventative, manual, mechanical, and chemical. All treatments shall be applied with the authorization of the, MCAS Miramar and City of San Diego as appropriate. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA) and implemented by a Licensed Qualified Applicator. Where manual and/or mechanical methods are used, disposal of the plant debris will be within an approved landfill area within San Diego County. The timing of the weed control treatment shall be determined for each plant species in consultation with the PCA for the Project, and with MCAS Miramar~~,~~ and City of San Diego as appropriate, with the goal of controlling populations before they start producing seeds. For the lifespan of the project (i.e., as long as the project is physically present), long-term measures to control the introduction and spread of weeds in the project area shall be taken as follows. – From the time construction begins until 2 years after construction is complete, annual surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required in the survey areas described above. After this time, surveying for new invasive weed populations and monitoring of identified and treated populations shall be required at an interval of every two years. However, the treatment of weeds shall occur on a minimum annual basis, unless otherwise approved by the PCA, MCAS Miramar, and City of San Diego as appropriate. – During project construction and operation/maintenance, all seeds and straw materials shall be certified weed free, and all gravel and fill material shall also be certified weed free. – During project construction, vehicle and boot wash stations shall be provided.
Location	All work areas in natural habitat where weeds could establish.
Monitoring/Reporting Action	Verify that weed control methods including treatments during construction and removal of vegetation are implemented consistent with the plan. Review annual weed inventory from SDG&E and verify that boot wash stations are in place.
Effectiveness Criteria	Weed populations in the project area do not exceed baseline weed populations.
Status	**Complete.** Pre-construction weed inventory was dated 11/10/16. The first annual survey was completed 05/15/18 through 05/17/18.
Review/Approval	CPUC received the Weed Survey on 06/26/18.

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APM/Mitigation Measure Title	**Mitigation Measure Biology-7: Mitigation for Bird Species**
Measure Text	This measure applies to all work areas in which any construction-related activities must be conducted during the nesting bird season (generally between January 15 and August 31, but may be earlier or later depending on species, location, and weather conditions). ***Nesting Bird Survey Requirements.*** If work is scheduled to occur during the avian nesting season, nesting bird surveys shall be conducted according to the following provisions: 1. Nest surveys shall occur within 5 days prior to the start of ground-disturbing construction or vegetation trimming or removal activities. If there is no work in an area for 7 days, it shall be considered a new work area if construction, vegetation trimming, or vegetation removal begins again. 2. Surveys shall be conducted with sufficient survey duration and intensity of effort necessary for the identification of active nests, which is defined as once birds begin constructing, preparing, or using a nest for egg-laying. A nest is no longer an "active nest" if abandoned by the adult birds or once fledglings are no longer dependent on the nest". Surveys shall include nests of protected species within vegetation identified for removal and/or pruning, and within the following buffers of active work areas: 0.25-mile buffer for white-tailed kite; 500-foot buffer for other raptor species. 3. Surveys shall be conducted during locally appropriate dates for nesting seasons determined in consultation with the USFWS and CDFW; note that generally the season is between January 15 and August 31 but may be earlier or later depending on species, location, and weather conditions. Species-specific nesting seasons for some species are identified below. 4. The surveys shall be conducted by a CPUC, USFWS-, and CDFW-approved qualified biologist. 5. Survey results shall be provided to CPUC, USFWS, and CDFW prior to initiating construction activities. 6. Work areas within which significant noise is not generated, such as work performed manually, by hand or on foot, and/or that would not cause significant disturbances to nesting birds (e.g., operating switches, driving on access roads, normally occurring activities at substations, and activities at staging and laydown areas) do not need to be surveyed prior to use. None of these activities shall result in physical contact with a nest. ***Avoid Impacts on Nesting Birds.*** During the nesting season (generally between January 15 and August 31) raptor nests that are located within a 500-foot buffer from a work location shall be evaluated by a CPUC-, USFWS-, and CDFW-approved qualified biologist to determine whether the raptor nest is active. No trees with active raptor nests shall be removed during nesting season. No additional measures shall be implemented if active nests are more than the following distances from the nearest work areas: (a) 0.25 mile for white-tailed kite, (b) 500 feet for raptors, Coastal California gnatcatcher, and least bell's vireo, (c) 250 feet for passerine birds in open space areas, or (d) 150 feet for common (non-special-status) passerine birds in residential, commercial, and industrial areas. Buffers shall not apply to construction-related traffic using

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	existing roads where the use of such roads is not limited to project-specific use (i.e., county roads, highways, farm roads, or other private roads). Where road use is limited to project-specific use, a buffer reduction or approval to drive through a buffer shall be obtained as described below under "Buffer Reduction". As appropriate, exclusion techniques may be used for any construction equipment that is left unattended for more than 24 hours to reduce the possibility of birds nesting in the construction equipment. An example of an exclusion technique is covering equipment with tarps. ***Buffer Reduction.*** The specified buffers from nesting birds may be reduced on a case-by-case basis if, based on compelling biological or ecological reasoning (e.g., the biology of the bird species, concealment of the nest site by topography, land use type, vegetation, level of project activity, and level of pre-existing disturbance on site), it is determined by a CPUC-, USFWS-, and CDFW-approved qualified biologist that implementation of a specified smaller buffer distance will still avoid nest abandonment and failure. This requirement includes buffer reductions or temporary buffer incursions for project-related use of roads where no stopping, standing, or other work activities shall occur in the buffer. Requests to reduce standard buffers or for temporary buffer incursions must be submitted to CPUC's independent biologist for review. Requests to reduce buffers must include: • Species • Location • Pre-existing conditions present on site • Description of the work to be conducted within the reduced buffer • Size and expected duration of proposed buffer reduction • Reason for the buffer reduction • Name and contact information of the CPUC-, USFWS-, and CDFW-approved qualified biologist(s) who requested the buffer reduction and will conduct subsequent monitoring • Proposed frequency and methods of monitoring necessary for the nest given the type of bird and surrounding conditions CPUC's independent biologist shall respond to SDG&E's request for a buffer reduction (and buffer reduction terms) within 1 business day; if a response is not received, SDG&E may proceed with the buffer reduction until CPUC's independent biologist can review and approve or deny the buffer reduction request. If SDG&E proceeds with a reduced buffer, nests shall be monitored on a daily basis during construction activities. If the buffer reduction request is denied, or if the qualified biologist determines that the nesting bird(s) are not tolerant of project activity, the specified buffer(s) listed above in this measure shall be implemented. Non-special-status species found building nests within the work areas after specific project activities begin may be tolerant of that specific project activity; however, the CPUC-, USFWS-, and CDFW-approved qualified biologist shall implement an appropriate buffer or other appropriate measures to protect the nest after taking into consideration the position of the nest, the bird species nesting on site, the type of work to be conducted, and duration of the construction disturbance. In these cases, the proposed buffer or other measures must be approved by CPUC's independent biologist through the buffer reduction process outlined in this measure, if buffers are less than those specified in this measure. These nests shall be monitored on a daily basis and

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	only during construction activities (no monitoring required during periods when no work is conducted) by a qualified biologist until the qualified biologist has determined that the young have fledged or construction ends within the work area (whichever occurs first). If the qualified biologist determines that the nesting bird(s) are not tolerant of project activity, the buffer outlined above in this measure shall be implemented. ***Specific Requirements for Coastal California Gnatcatcher and Least Bell's Vireo.*** Where there is potential nesting habitat for the coastal California gnatcatcher or least Bell's vireo within or adjacent to the MHPA, construction or operation/maintenance noise that exceeds the existing baseline noise level for a site by more than 3 dB hourly average or an hourly average threshold of 60 decibels, whichever is higher, shall be avoided during these species' breeding seasons as follows: coastal California Gnatcatcher March 1 through August 15, and least Bell's vireo March 15 through September 15. If avoidance is not possible during the breeding season, SDG&E shall work with a qualified acoustician approved by the CPUC, USFWS, and CDFW to develop and implement noise attenuation measures. The following measures shall be adhered to when project activities during the breeding season occur within riparian habitats that may support vireo and flycatcher: • A biologist knowledgeable of vireo and/or flycatcher biology and ecology, approved by the CPUC, USFWS, and CDFW, will survey within the project impact footprint and a 300-foot buffer (within riparian scrub) before clearing vegetation or project construction to check for vireo and/or flycatcher nesting activity. Should an active nest be located in the impact footprint, then work will be suspended until the nest is vacated. • Biological buffers of at least 100 feet will be maintained adjacent to active nests. For project activities during the breeding season adjacent to known occupied vireo and/or flycatcher nesting habitat, the biologist will monitor nesting bird activity. If the biologist determines that nesting birds are being disrupted by project activities, then work will be suspended until effective minimization measures (e.g., noise attenuation structures) developed in coordination with the CPUC, USFWS, and CDFW are in place or until after the breeding season is completed. Any lighting required during project activities will be shielded and directed away from vireo and/or flycatcher habitat to ensure that these areas are not artificially illuminated. ***Avian Protection on Power Lines.*** The project shall include collision-reducing techniques for transmission lines (based on Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2012; Avian Power Line Interaction Committee [APLIC] 2012). ***Monitoring and Reporting.*** All nests with a reduced buffer shall be monitored on a daily basis during construction activities by a CPUC-, USFWS-, and CDFW-approved qualified biologist until the qualified biologist has determined that the young have fledged or until one week after construction ends within the reduced buffer/work area (whichever occurs first). Nest locations and exclusion buffers shall be mapped (using geographic information systems [GIS]) for all nests identified. This information shall be maintained in a database and shall be provided to CPUC, CDFW, and USFWS. A monthly written report shall be submitted to CPUC, CDFW, and USFWS for construction within a reduced buffer and shall include the following: information included in buffer reduction requests, work conducted within the

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	work site, duration of work activities and related buffer reduction, information on nest success (eggs, young, and adults). No avian reporting shall be required for construction occurring outside of the nesting season and if construction activities do not occur within a reduced buffer during any calendar month. A final report shall be submitted to CPUC, CDFW, and USFWS at the end of each nesting season summarizing all avian-related monitoring results and outcomes for the duration of project construction. Nests located in areas of existing human presence and disturbance, such as in yards of private residences, or within commercial and or industrial properties, are likely acclimated to disturbance and do not need to be monitored, as determined by the CPUC-, USFWS-, and CDFW-approved qualified biologist and approved by CPUC's independent biologist.
Location	All work areas within the buffer of suitable habitat for nesting birds
Monitoring/Reporting Action	SDG&E shall provide nesting bird survey reports and prepare nesting bird logs as required by the measure. Verify that all nests/nesting activity is monitored in compliance with the measure. The CPUC shall review buffer reduction requests and nesting bird logs.
Effectiveness Criteria	SDG&E monitors nest activity and implements buffers as required in the measure to avoid nest abandonment as a result of construction activity.
Status	**Complete.** Nest Surveys were conducted on the following dates: *2017* 03/30/17, 04/06/17, 04/07/17, 04/11/17, 04/14/17, 05/11/17, 05/12/17, 05/16/17, 05/17/17, 05/22/17, 05/23/17, 05/30/17, 05/31/17, 06/05/17, 06/06/17, 06/09/17, 06/12/17, 06/13/17, 06/14/17, 06/16/17, 06/19/17, 06/20/17, 06/22/17, 06/23/17, 06/30/17, 07/03/17, 07/05/17, 07/06/17, 07/07/17, 07/10/17, 07/12/17, 07/13/17, 07/14/17, 07/17/17, 07/21/17, 07/25/17, 07/26/17, 07/28/17, 08/04/17, 08/10/17, 08/11/17, 08/15/17, 08/18/17, 08/22/17, 08/24/17, 08/25/17, 08/29/17 *2018* 01/22/18, 02/02/18, 02/06/18, 02/07/18, 02/20/18, 02/26/18, 03/08/18, 03/12/18, 03/16/18, 03/26/18, 04/06/18, 04/12/18, 04/19/18, 04/26/18, 05/03/18, 05/04/18, 05/10/18, 05/17/18, 05/24/18, 06/15/18, 06/18/18, 07/05/18, 08/01/18, 08/03/18, 08/07/18, 08/10/18, 08/14/18, 08/15/18 Nesting Bird Buffer Reduction Requests were submitted on the following dates: *2017* NBBRR#1: 03/30/17, NBBRR #2: 04/06/17, NBBRR #3: 04/11/17, NBBRR #4: 05/12/17, NBBRR #4: 05/12/17, NBBRR #5: 05/12/17, NBBRR#6: 05/17/17, NBBRR #7: 05/31/17, NBBRR #8: 06/12/17, NBBRR#9: 06/16/17, NBBRR #10: 06/23/17, NBBRR #11: 07/10/17, NBBRR #12: 08/01/17 *2018* NBBRR #1: 02/07/18, NBBRR #2: 03/27/18, NBBRR #3: 03/30/18, NBBRR #4: 04/20/18, NBBRR #5: 05/17/18
Review/Approval	Nesting Bird Buffer Reduction Requests were approved on the following dates: *2017* NBBRR#1: 03/31/17, NBBRR #2: 04/07/17, NBBRR #3: 04/12/17, NBBRR #4: 05/15/17, NBBRR #4: 05/15/17, NBBRR #5: 05/15/17, NBBRR#6: 05/18/17, NBBRR #7: 06/01/17, NBBRR #8: 06/13/17, NBBRR#9: 06/21/17, NBBRR #10: 06/23/17, NBBRR #11: 07/12/17, NBBRR #12: 08/02/17

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	2018 NBBRR #1: 02/09/18, NBBRR #2: 03/28/18, NBBRR #3: 04/02/18, NBBRR #4: 04/25/18, NBBRR #5: 05/18/18
APM/Mitigation Measure Title	**Mitigation Measure Biology-10: Mitigation for Special-Status Bat Species**
Measure Text	Prior to construction, suitable special-status bat habitat shall be assessed by a CPUC- and CDFW-approved, qualified biologist in trees within a 50-foot buffer of active work areas and in any structures with suitable special-status bat roosting habitat within a 100-foot buffer of active work areas (e.g., bridges). If an active special-status bat maternity roost is found in a tree or structure, the approved biologist shall define an appropriate limited or no-work exclusion buffer surrounding the special-status bat maternity roost. The limited work or exclusion areas shall remain in effect until the approved biologist determines that the work would no longer be a disturbance to the roost. A reduction in the buffer may be approved by the qualified biologist if there is a change in the type of work to be conducted. The limited work or exclusion buffer shall not apply to construction-related traffic using existing roads where the use of such roads is not limited to project-specific use (i.e., county roads, highways, farm roads, or other private roads) and shall not apply if the roost(s) is/are located in a residential, commercial, or industrial area. The boundaries of the limited or no work buffer shall be clearly marked by the approved biologist. The approved biologist shall inspect construction and roost sites when construction is occurring to ensure the integrity of the limited or no-work buffer and to ensure that the size of the buffer is adequate based on site conditions and construction-generated noise, dust, etc. All bat roosts documented during pre-construction surveys shall be reported through the MMCRP.
Location	Work areas in proximity to bat roosting habitat
Monitoring/Reporting Action	Verify that appropriate buffers for bat roosting are marked in the field.
Effectiveness Criteria	No-work buffers are established and enforced around active special-status bat maternity roosts.
Status	**Complete**. Survey conducted on 05/13/17. No bats detected. Verification surveys conducted 06/27/17 for P05 and CC MM CP, and 07/05/17 for P03, P04, and P06. No bats detected. No additional surveys were required in 2018.
Review/Approval	Surveys were reviewed when submitted.
APM/Mitigation Measure Title	**Mitigation Measure Biology-11: Reseeding for Fires**
Measure Text	Should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division or the California Department of Forestry and Fire Protection (Cal Fire) to be caused by the project, SDG&E shall reseed all natural areas — both public and private — that are burned as a result of the project-caused fire. Reseeding shall continue until the native vegetation community is reestablished. For example, arid chaparral requires a minimum 10-year period to reestablish an adequate seed bank and thereby resist vegetation type conversion. A reseeding plan shall be developed with input from Cal Fire,

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	CPUC, and City of San Diego (for ROW within and adjacent to City of San Diego MHPA) based on a native seed mix. Seeds shall be raked into the soil to avoid seed consumption, and reseeding shall be carried out once to coincide with the rainy season (October 1 through April 1) to increase the likelihood of germination success. SDG&E shall provide a written report documenting all reseeding activities to the CPUC. SDG&E shall make a good faith effort to obtain approval to reseed on private lands, as appropriate, and documentation of this good faith effort shall be submitted to the CPUC upon request. Specific reseeding requirements stipulated in this mitigation measure shall be subject to approval and modification by any public land-owning agency.
Location	Any area damaged by wildfire caused by project activities
Monitoring/Reporting Action	SDG&E provides a report documenting the reseeding activities. SDG&E monitors that vegetation is reestablished in burned areas. The CPUC verifies that SDG&E has reseeded areas that were burned by a project-caused fire.
Effectiveness Criteria	Areas that are burned by project-caused wildfire are successfully revegetated.
Status	**Complete.** Small burned area on Pomerado Road reseeded naturally.
Review/Approval	EI inspected and photographed site on August 20, 2018.
APM/Mitigation Measure Title	**APM BIO-1: Minimization of Impacts to Special-Status Plant**
Measure Text	Implementation of the following measures will ensure impacts to special-status plant species remain less than significant: • The qualified biologist shall supervise construction activities within the vicinity of areas identified as having special-status plant species. • Impacts to special-status plant species shall be avoided to the maximum extent possible by installing fencing or flagging, marking areas to be avoided in construction areas, and limiting work in areas identified as having special-status plant species to periods of time when the plants have set seed and are no longer growing. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land preservation, plant salvage, transplantation, or other appropriate methods as determined by the qualified biologist. Alternatively, if the special-status plant species in question is a SDG&E Subregional NCCP covered species, mitigation consistent with measures established in the NCCP and discussed in the SDG&E Subregional NCCP, above, shall be provided.
Location	Areas containing special-status plant populations
Monitoring/Reporting Action	Verify that a biologist supervises construction activities in the vicinity of special-status plant populations and areas within special-status plant species are avoided through fencing, flagging, or other marking for avoidance. Where impacts cannot be avoided, evidence of compensation is provided to the CPUC.
Effectiveness Criteria	Special-status plant populations are avoided or impacts are compensated through off-site mitigation.
Status	**Complete.** Special-status plants were flagged.

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Review/Approval	Verified in the field by EM.
APM/Mitigation Measure Title	**APM Bio-2: SDG&E Subregional NCCP**
Measure Text	The Proposed Project will avoid and minimize impacts to biological resources through implementation of the SDG&E Subregional NCCP. The SDG&E Subregional NCCP establishes a mechanism for addressing biological resource impacts incidental to the development, maintenance, and repair of SDG&E facilities within the SDG&E Subregional NCCP coverage area. The Proposed Project is located within the SDG&E Subregional NCCP coverage area. The SDG&E Subregional NCCP includes a Federal Endangered Species Act (ESA) Section 10(A) permit and a California ESA Section 2081 memorandum of understanding (for incidental take) with an Implementation Agreement with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW – formerly the California Department of Fish and Game), respectively, for the management and conservation of multiple species and their associated habitats, as established according to the Federal and State ESAs and California's NCCP Act. The NCCP's Implementing Agreement confirms that the mitigation, compensation, and enhancement obligations contained in the Agreement and the SDG&E Subregional NCCP meet all relevant standards and requirements of the California ESA, the Federal ESA, the NCCP Act, and the Native Plant Protection Act with regard to SDG&E's activities in the Subregional Plan Area. Pursuant to the SDG&E Subregional NCCP, SDG&E will conduct pre-construction studies for all activities occurring off of existing access roads in natural areas. An independent biological consulting firm will survey all Proposed Project impact areas and prepared a Pre-activity Study Report (PSR) outlining all anticipated impacts related to the Proposed Project. The Proposed Project will include monitoring for all project components, as recommended by the PSR and outlined in the SDG&E Subregional NCCP, as well as other avoidance and minimization measures outlined in the NCCP's Operational Protocols. The PSR will be submitted to the CDFW and USFWS for review. Prior to the commencement of construction, a verification survey will be conducted of the Proposed Project disturbance areas, as required by the SDG&E Subregional NCCP. Biological monitors will be present during construction to assure implementation of the avoidance and minimization measures. If the previously-delineated work areas must be expanded or modified during construction, the monitors will survey the additional impact area to determine if any sensitive resources will be impacted by the proposed activities, to identify avoidance and minimization measures, and to document any additional impacts. Any additional impacts are included in a Post-construction Report (PCR) for purposes of calculating the appropriate mitigation, which generally includes site enhancement or credit withdrawal from the SDG&E mitigation bank. When construction is complete, the biological monitor will conduct a survey of the entire line to determine actual impacts from construction. The PCR will determine how much site enhancement and credit withdrawal from the SDG&E mitigation bank will be required to address impacts from project related activities. These impact and mitigation credit calculations are submitted to the USFWS and the CDFW as part of the NCCP Annual Report pursuant to requirements of the NCCP and the NCCP Implementing Agreement.

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	Specific operating restrictions that are incorporated into the Proposed Project design to comply with the SDG&E Subregional NCCP include the following: • Vehicles would be kept on access roads and limited to 15 miles per hour (Section 7.1.1, 1.). • No wildlife, including rattlesnakes, may be harmed, except to protect life and limb (7.1.1, 2.). • Feeding of wildlife is not allowed (Section 7.1.1, 4.). • No pets are allowed within the ROW (Section 7.1.1, 5.).). • Plant or wildlife species may not be collected for pets or any other reason. (Section 7.1.1, 7). • Littering is not allowed, and no food or waste would be left on the ROW or adjacent properties (Section 7.1.1, 8.). • Measures to prevent or minimize wild fires would be implemented, including exercising care when driving and not parking vehicles where catalytic converters can ignite dry vegetation (Section 7.1.1, 9.). • Field crews shall refer all environmental issues, including wildlife relocation, dead, or sick wildlife, or questions regarding environmental impacts to the Environmental Surveyor. Biologists or experts in wildlife handling may be necessary to assist with wildlife relocations (Section 7.1.1, 10.). • All SDG&E personnel would participate in an environmental training program conducted by SDG&E, with annual updates (Section 7.1.2, 11.). • The Environmental Surveyor shall conduct pre-activity studies for all activities occurring in natural areas, and will complete a proactivity study form including recommendations for review by a biologist and construction monitoring, if appropriate. The form will be provided to CDFW and USFWS but does not require their approval (Section 7.1.3, 13.). • The Environmental Surveyor shall flag boundaries of habitats to be avoided and, if necessary, the construction work boundaries (Section 7.1.3, 14.). • The Environmental Surveyor must approve of activity prior to working in sensitive areas where disturbance to habitat may be unavoidable (Section 7.1.4, 25.).). • In the event SDG&E identifies a covered species (listed as threatened or endangered by the federal or state) of plant within the temporary work area (10 foot radius) surrounding a power pole, SDG&E would notify the USFWS (for Federal ESA listed plants) and CDFW (for California ESA listed plants) (Section 7.1.4, 28.). • The Environmental Surveyor shall conduct monitoring as recommended in the pre-activity study form (Section 7.1.4, 35.). • Supplies, equipment, or construction excavations where wildlife could hide (e.g., pipes, culverts, pole holes, trenches) shall be inspected prior to moving or working on/in them (Section 7.1.4, 37, and 38.). • Fugitive dust will be controlled by regular watering and speed limits (Section 7.1.4, 39.). • During the nesting season, the presence or absence of nesting species (including raptors) shall be determined by a biologist who would recommend appropriate avoidance and minimization measures (Section 7.1.6, 50).

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	• Maintenance or construction vehicle access through shallow creeks or streams is allowed. However no filling for access purposes in waterways is allowed (Section 7.1.7, 52). • Staging/storage areas for equipment and materials shall be located outside of riparian areas (Section 7.1.7, 53.).
Location	All work areas
Monitoring/Reporting Action	Verify that the measures are implemented by construction personnel during construction.
Effectiveness Criteria	All NCCP measures are implemented in compliance with SDG&E's NCCP.
Status	**Complete.** Post-Construction Survey and Report to be submitted by January 2019.
Review/Approval	CPUC EMs verified the implementation of the measure requirements.
APM/Mitigation Measure Title	**APM BIO-3: SDG&E QCB HCP**
Measure Text	SDG&E will implement the SDG&E QCB HCP, which was developed to protect the Quino Checkerspot Butterfly and its habitat through implementation of both general and Quino Checkerspot Butterfly-specific operational protocols that were designed to avoid or minimize take of the species.
Location	QCB habitat
Monitoring/Reporting Action	Verify SDG&E implements protocols in the SDG&E QCB HCP.
Effectiveness Criteria	Protocols are implemented to avoid or minimize take of QCB.
Status	**Complete**
Review/Approval	CPUC EMs verified QCB HCP protocols were implemented.
APM/Mitigation Measure Title	**Mitigation Measure Cultural Resources-1: Cultural Resources Monitoring, Evaluation, and Treatment of Resources**
Measure Text	Archaeological monitoring shall be conducted during ground disturbing activities (i.e., grubbing, brushing, vegetation clearing, excavation, grading, etc.) in areas with high potential to discover historical and archaeological resources, as mapped on Figures 4.3-1 through 4.3-7. Monitoring teams shall work under the direct supervision of a CPUC-approved cultural resources specialist/archaeologist. Monitoring teams shall include one qualified archaeological monitor and one Native American monitor. In the event that ground disturbing activities simultaneously occur in multiple locations, a monitoring team shall be required at each location. If the CPUC-approved cultural resources specialist/archaeologist determines that the potential for cultural resources is low after initial ground-disturbance, the CPUC-approved cultural resources specialist/archaeologist may determine that monitoring is no longer required in that location. If previously undiscovered resources are identified during construction, all construction activities within 50 feet (15 meters) of the resource shall halt, and the monitoring team shall flag-off the area and notify the equipment operator, on-site supervisor, and the CPUC-approved cultural resources specialist/archaeologist of the finds. Construction efforts shall be temporarily

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	diverted, and the CPUC-approved cultural resources specialist/archaeologist shall evaluate the resource and determine whether it is (1) eligible for the CRHR (and thus a historic resource for purposes of CEQA); or (2) a unique archaeological resource as defined by CEQA. If the resource is determined to be neither a unique archaeological nor a historical resource, work may commence in the area. If the resource meets the criteria for either a historical or unique archaeological resource, or both, work shall remain halted within 50 feet (15 meters) of the area of the find, and the CPUC-approved cultural resources specialist/archaeologist shall consult with CPUC staff and SDG&E's Cultural Resource Specialist regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA Guidelines Section 15064.5(b). Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts on cultural resources and shall be required to mitigate impacts to previously undiscovered resources. Other methods of mitigation, described below, shall only be used if the CPUC-approved cultural resource specialist/ archaeologist determines the method would provide equivalent or superior mitigation of the impacts to the resource. The alternative methods of mitigation may include data recovery and documentation of the information contained in the site to answer questions about local prehistory (see Mitigation Measures Cultural Resources-3 and Cultural Resources-4). The methods and results of evaluation or data recovery work at an archaeological find shall be documented in a professional-level technical report to be filed with the California Historical Resources Information System (CHRIS). Work in the area may commence upon completion of treatment, as approved by the CPUC. If data recovery of resources is necessary, additional archaeologists shall perform the excavation while the monitoring team(s) continues to monitor construction.
Location	All areas mapped in the EIR with high sensitivity for cultural resources
Monitoring/Reporting Action	SDG&E files the required reports with CHRIS if data recovery and documentation of any recorded resources is necessary and the resource cannot be avoided. The CPUC verifies that qualified archaeologists are present during construction activities in areas with high sensitivity for cultural resources.
Effectiveness Criteria	Historical or archaeological resources are preserved in place or mitigated through data recovery and documentation.
Status	**Complete**
Review/Approval	CPUC EMs verified measures were implemented.
APM/Mitigation Measure Title	**Mitigation Measure Cultural Resources-2: Worker Training**
Measure Text	Proposed Project personnel shall receive training regarding the appropriate work practices necessary to effectively implement the APMs and mitigation measures, including the potential for exposing subsurface cultural resources, including human remains. Training shall be required for all personnel before construction commences and repeated for all new personnel before they begin work on the Project. This training program shall be submitted to the CPUC for approval at least 30 days before the start of construction and

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	include procedures to be followed upon the discovery or suspected discovery of archaeological materials and human remains, consistent with the procedures set forth in Mitigation Measure Cultural Resources-1 and Cultural Resources-4.
Location	All work areas
Monitoring/Reporting Action	Verify that all workers have received training prior to starting work on the project.
Effectiveness Criteria	All workers have been trained in appropriate work practices regarding cultural resources and human remains.
Status	**Complete.** As of project energization on August 29, 2018, a total of 1,851 personnel completed worker training.
Review/Approval	CPUC EMs confirmed all personnel had stickers on their hard hats.
APM/Mitigation Measure Title	**Mitigation Measure Cultural Resources-4: Procedures for Discovery of Human Remains**
Measure Text	In the event that human remains or suspected human remains are identified, SDG&E shall comply with California law (Heath and Safety Code Section 7050.5; PRC Sections 5097.94, 5097.98, and 5097.99). The area shall be flagged off and all construction activities within 50 feet (15 meters) of the find shall immediately cease. The CPUC-approved cultural resources specialist/archaeologist and SDG&E shall be immediately notified, and the cultural resources specialist/archaeologist shall examine the find. If the CPUC-approved cultural resources specialist/ archaeologist determines that there may be human remains, SDG&E shall immediately contact the Medical Examiner at the San Diego County Coroner's office. The Medical Examiner has two (2) working days to examine the remains after being notified by SDG&E. If the Medical Examiner believes the remains are Native American, he/she shall notify the California Native American Heritage Commission (NAHC) within 24 hours. If the remains are not believed to be Native American, the appropriate local law enforcement agency will be notified. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains, and the MLD has 48 hours to make recommendations to the landowner or representative for the respectful treatment or disposition of the human remains and any associated grave goods. If the MLD does not make recommendations within 48 hours, the remains shall be reinterred in the location they were discovered and the area of the property shall be secured from further disturbance. If there are disputes between the landowners and the MLD, the NAHC shall mediate the dispute and attempt to find a solution. If the mediation fails to provide measures acceptable to the landowner, the landowner or their representative shall reinter the remains and associated grave goods and funerary objects in an area of the property secure from further disturbance. The location of any reburial of Native American human remains shall not be disclosed to the public and shall not be governed by public disclosure requirements of the California Public Records Act, Cal. Govt. Code § 6250 et seq., unless otherwise required by law. The Medical Examiner shall withhold public disclosure of information related to such reburial pursuant to the specific exemption set forth in California Government Code Section 6254(r).
Location	Locations where human remains are discovered

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Monitoring/Reporting Action	Verify that SDG&E has appropriately flagged the area for avoidance and has notified all necessary parties.
Effectiveness Criteria	SDGE complies with laws for treatment of human remains.
Status	**Complete**
Review/Approval	No human remains were discovered.
APM/Mitigation Measure Title	**APM CUL-2: Avoidance of Environmentally Sensitive Areas**
Measure Text	Known cultural resources that will be avoided would be demarcated as Environmentally Sensitive Areas. Construction crews would be instructed to avoid disturbance of these areas.
Location	Locations of known cultural resources
Monitoring/Reporting Action	Verify that all known cultural resources are demarcated as Environmentally Sensitive Areas and avoided.
Effectiveness Criteria	Known locations of cultural resources are avoided.
Status	**N/A**
Review/Approval	N/A
APM/Mitigation Measure Title	**APM CUL-6: Native American Monitoring**
Measure Text	Native American monitoring may be implemented if transmission line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place.
Location	Identified and mapped Native American traditional locations or places
Monitoring/Reporting Action	Verify that Native American monitors are present on site during activities in the vicinity of traditional locations or places.
Effectiveness Criteria	Tribal concerns are represented and communicated to the construction crews. Activities are coordinated with the appropriate tribal council.
Status	**Complete**
Review/Approval	CPUC EMs verified Native American monitors were present.
APM/Mitigation Measure Title	**Mitigation Measure Fire-1: Final Fire Prevention Plan**
Measure Text	SDG&E will implement the measures contained in the approved Fire Prevention Plan including: • During Project construction, SDG&E shall implement ongoing fire patrols during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods.

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	• During Red Flag Warning events, as issued daily by the National Weather Service, all construction and maintenance activities shall cease, with an exception for transmission line testing, repairs, unfinished work, or other specific activities which may be allowed if the facility/equipment poses a greater fire risk if left in its current state. A transmission line may be tested if the loss of another transmission facility could lead to system instability or cascading outages. • All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational in all Proposed Project work areas and access routes to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction activities at each construction work site. All fires shall be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition. • All construction personnel shall be trained in fire-safe actions, initial attack firefighting, and fire reporting. All construction personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. All construction personnel shall be provided a hard hat sticker listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on hard hat stickers shall be updated and redistributed to all construction personnel, and outdated hard hat stickers destroyed, prior to the initiation of construction activities on the day the information change goes into effect.
Location	All work areas
Monitoring/Reporting Action	SDG&E conducts fire patrol monitoring of work areas. Verify that all workers receive proper training and work is halted during Red Flag Warning events.
Effectiveness Criteria	Regular fire monitoring occurs during the fire season and fires are reported upon discovery of ignition.
Status	**Complete**
Review/Approval	CPUC EMs verified fire monitoring occurred.
APM/Mitigation Measure Title	**Mitigation Measure Fire-2: Maintain Emergency Access**
Measure Text	SDG&E and/or its contractors shall have fire suppression equipment on all construction vehicles. Construction personnel shall be required to park vehicles away from dry vegetation. SDG&E shall ensure that construction personnel, construction equipment, and aerial operations do not create obstructions to firefighting equipment or crews. Emergency ingress and egress to access roads shall be maintained per the Construction Transportation Management Plan (required by Mitigation Measure Traffic-1), and SDG&E shall notify residents and emergency personnel of road or lane closures as required by Mitigation Measures Traffic-6 and Traffic-8. Construction in the work area shall cease in the event of a fire within 1,000 feet of the work area. The work area includes the transmission line right-of-way (ROW), construction laydown and staging areas, pull sites, access roads, parking pads, and any other sites adjacent to the ROW where construction personnel are active or where equipment is in use or stored. Should a wildfire occur within 1 mile of a work area, helicopters

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	in use by SDG&E shall immediately cease construction activities and not restart aerial operations until authorized by the appropriate fire agency.
Location	All work areas near vegetation
Monitoring/Reporting Action	Verify vehicles are not parked near vegetation and fire equipment is carried on construction vehicles. Verify SDG&E construction activities do not obstruct firefighting crews.
Effectiveness Criteria	Vehicles are parked in approved areas and contain necessary firefighting equipment. SDG&E activities do not obstruct fire response efforts.
Status	**Complete**. Residents and emergency personnel were notified.
Review/Approval	CPUC EMs monitored implementation of measure requirements.
APM/Mitigation Measure Title	**Mitigation Measure Fire-3: Water Tanks**
Measure Text	SDG&E and/or its contractors shall have water tanks and/or water trucks sited/available at active Project sites for fire protection during Project construction.
Location	Active project sites
Monitoring/Reporting Action	Water tanks or water trucks are available at active work areas for fire suppression/protection.
Effectiveness Criteria	Water is available at active work areas for fire protection.
Status	**Complete**
Review/Approval	Water tanks were located at the Driving Range Staging Yard.
APM/Mitigation Measure Title	**Mitigation Measure Fire-4: Conductor Clearance**
Measure Text	SDG&E shall establish adequate conductor clearances prior to energizing the Project by removing all vegetation from within 15 radial feet of new and relocated overhead conductors under maximum sag and sway. Only trees and vegetation with a mature height of 15 feet or less shall be permitted within the ROW. In addition, tree branches that overhang the ROW within 15 horizontal feet of any conductor shall be trimmed or removed, as appropriate, including those on steep hillsides that may be many vertical feet above the facility. Cleared vegetation shall either be removed or chipped and spread onsite in piles no higher than 6 inches. During Project construction, SDG&E shall maintain adequate conductor clearances by inspecting the growth of vegetation along the entire length of the overhead transmission line and documenting the survey and results in a report submitted to the CPUC annually during construction. Conductor clearance of 15 radial feet under maximum sag and sway shall be maintained at all times. Maximum sag and sway shall be computed based on ambient temperatures of no less than 120 degrees Fahrenheit and wind gusts of no less than 100 miles per hour.
Location	Along overhead alignment and beneath installed conductors

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Monitoring/Reporting Action	Verify adequate conductor clearances are established prior to energization. SDG&E submits an annual report to the CPUC documenting conductor clearance under maximum sag and sway.
Effectiveness Criteria	Conductor clearance is maintained to avoid a conductor from coming into contact with vegetation and igniting a fire.
Status	**Complete.** Clearance surveys were conducted on August 12, August 27, and again by helicopter prior to energization on August 29, 2018.
Review/Approval	CPUC EMs received verification of clearance surveys from SDG&E on August 28, 2018.
APM/Mitigation Measure Title	**APM PS-6: Fire Prevention Plan and Monitoring**
Measure Text	At the completion of each work day, construction crews will lock up and secure each worksite to prevent theft or vandalism associated with work equipment or supplies. SDG&E will also implement its project specific fire plan, which will include private fire patrol monitoring as appropriate. Furthermore, SDG&E may have private security personnel monitoring construction sites where materials are stored, which may include the substations, staging yards and ROW.
Location	All work areas
Monitoring/Reporting Action	SDG&E conducts fire patrol monitoring. The CPUC verifies security of work sites.
Effectiveness Criteria	Fires are prevented.
Status	**Complete**
Review/Approval	CPUC EM verified Staging Yards were locked at end of each work day.
APM/Mitigation Measure Title	**APM GEO-3: Minimize Soil Disturbance**
Measure Text	Ground and soil disturbance will be minimized through the use of existing access routes, to the extent feasible. Soil erosion and topsoil loss would be controlled by implementing SDG&E's BMP Manual during the construction of the Proposed Project. Additionally, the Proposed Project would comply with the Construction General Permit, which would include the preparation of SWPPP. Topsoil would be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil would be used to reclaim areas of temporary construction disturbance.
Location	Areas of soil disturbance
Monitoring/Reporting Action	Verify SWPPP implementation, including BMPs and reclamation of areas of temporary disturbance.
Effectiveness Criteria	Soil erosion is controlled, and top soil loss is minimized.
Status	**Complete**. SWPPP prepared and approved on 12/16/16.
Review/Approval	CPUC EMs verified erosion was controlled.

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APM/Mitigation Measure Title	**Mitigation Measure GHG-1: Disposal of Organic Matter**
Measure Text	In accordance with requirements in Assembly Bill 1826, SDG&E shall dispose of organic waste (defined in PRC Section 42649.8(c) as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) removed on and after April 1, 2016 by means other than transporting to a landfill if the amount of organic waste meets or exceeds eight cubic yards per week. On and after January 1, 2017, SDG&E shall dispose of organic waste by means other than transporting to a landfill if the amount of organic waste meets or exceeds four cubic yards per week. Options for non-landfill disposal may include composting on previously disturbed SDG&E land, self-hauling organic waste for recycling, or participating in a greenwaste recycling program in accordance with subdivision (b) of AB 1826.
Location	All organic waste collection locations
Monitoring/Reporting Action	Verify organic waste is properly collected and disposed of.
Effectiveness Criteria	SDG&E complies with AB 1826.
Status	**Complete**
Review/Approval	Compliance Memo submitted 12/07/16.
APM/Mitigation Measure Title	**APM AIR-5: Consistency with AB 32**
Measure Text	Equipment and vehicles supporting construction of the Proposed Project would comply with the requirements implemented by CARB to reduce GHG emissions and would be consistent with AB 32's goals. Additionally, SDG&E would implement ongoing standard internal programs and practices that ensure compliance with CARB's SF_6 regulations and maximum emission rates.
Location	Substations and all equipment locations
Monitoring/Reporting Action	Verify equipment and vehicles are consistent with AB 32 goals and substation transformers comply with SF_6 regulations.
Effectiveness Criteria	SDG&E complies with AB 32.
Status	**Complete**
Review/Approval	SDG&E submitted equipment list to CPUC monthly.
APM/Mitigation Measure Title	**Mitigation Measure Hazards-1: Site Specific Blasting Plan**
Measure Text	The construction contractor shall ensure compliance with all relevant local, state, and federal regulations relating to blasting activities. SDG&E or its contractor shall prepare a site-specific blasting plan, notification requirements, and monitoring procedures for each blasting location proposed as required below: ***Blasting Plan.*** A site-specific blasting plan shall be prepared prior to rock blasting in any location where blasting is required. Each blasting plan must include noise and vibration calculations, blasting methods, surveys of existing

Category	Measure Requirement/Application
	structures and other built facilities, and distance calculations to estimate the area of effect where vibration levels would exceed 0.2 in/sec PPV or noise levels would exceed 90 dBA as a result of the blasting. The blasting plan shall identify a hazardous zone for people during blasting. The hazardous zone shall be defined as the area where a person could be injured or killed if they were to be located in that zone during controlled detonation. Personnel and members of the public shall be located outside of the hazardous zone. The blasting plan shall include methods to verify that personnel or members of the public are located outside of the hazardous zone. In addition, the blasting plan shall identify the trails that are adjacent to the blasting sites and that would require temporary closure during blasting activities. Finally, the blasting plan would require that SDG&E coordinate with MCAS Miramar to identify any locations where controlled detonation would be prohibited because the detonation site is located near unexploded ordnances. Blasting plans shall be submitted to the City of San Diego for review and approval before blasting at each site. City-approved Blasting Plans shall be submitted to the CPUC for review prior to blasting at each site. SDG&E's contractor shall prepare daily blasting-related reports that include: Blast Report, Seismograph Monitoring Report, Inspection Report, Blasting Complaint Report, and Pre-Blast Inspection Report. ***Notification.*** SDG&E shall notify all sensitive receptors within 500 feet of the area of effect at least 1 week prior to the blasting event. The notification shall include the time and location of the blasting and provide best management practices that people can use to reduce the noise level experienced at the time of the blasting (i.e., stay indoors and close windows). The notification shall include phone numbers for a public liaison and complaint hotline as required by Mitigation Measure Noise-1. SDG&E shall also alert nearby residents immediately prior to blasting by sounding warning signals/sirens. ***Monitoring.*** Immediately prior to controlled detonation, SDG&E personnel shall visually verify that no people are located within the hazardous zone. SDG&E shall follow all required monitoring protocols described in the blasting plan. ***Minimize Damage.*** Adjacent structures within 500 feet of blasting locations shall be surveyed prior to blasting to determine their vulnerability to damage and to document their current physical exterior condition. Blasting shall not be allowed where damage to vulnerable structures is likely to occur; a chemical agent for rock fracturing or a rock anchoring or mini-pile system shall be used instead in such circumstances. The following provisions shall be employed to minimize risk of damage to structures in the area: Blasting mats shall be employed to eliminate flyrock. SDG&E's contractor shall employ proper stemming in the drill holes to control flyrock. Stemming shall be left at the top of blast holes to control/eliminate airblast. If any structure is inadvertently adversely affected by construction vibration, the structure shall be restored to conditions equivalent to those prior to blasting. SDG&E shall then fairly compensate the owner of any damaged structure for lost use.
Location	Where blasting is required
Monitoring/Reporting Action	SDG&E prepares the blasting plan to the approval of the CPUC; notifies sensitive receptors within 500 feet of the blast at least 1 week prior to blasting;

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	monitors blast activity and area to avoid people; submits reports for surveys of structures within 500 feet of the blast and implementation of blast control provisions to minimize impacts on structures; and submits reports for restoration of damaged structures.
Effectiveness Criteria	Avoid damage to structures or people from blasting or repair any inadvertent damage.
Status	**N/A** Blasting not required.
Review/Approval	**N/A**
APM/Mitigation Measure Title	**Mitigation Measure Hazards-2: Spill Prevention, Control, and Countermeasure Plan**
Measure Text	An SDG&E-designated representative shall be identified to ensure that all hazardous materials and safety plans are followed throughout the construction period. Best Management Practices (BMPs) identified in the project Stormwater Pollution Prevention Plan (SWPPP) and spill prevention and response measures identified in the SPCC Plan shall be implemented during project construction to minimize the risk of an accidental release and to provide the necessary information for emergency response. A copy of the project SEAP shall be submitted to the CPUC at least 30 days prior to construction. All construction personnel shall be required to attend SEAP training prior to conducting any work on the project site. Training attendance sheet(s) shall be submitted to the CPUC on a monthly basis.
Location	All work areas where hazardous materials are stored or used
Monitoring/Reporting Action	Training attendance sheets are provided to the CPUC. Verify implementation of spill prevention measures in accordance with the SPCC Plan and SWPPP.
Effectiveness Criteria	Hazardous materials are contained, and any accidental release of hazardous materials is responded to in a manner that contains and controls the transport of hazardous materials.
Status	**Complete**. SEAP Complete. Refresher training program implemented September 9, 2017.
Review/Approval	SEAP materials submitted to CPUC 12/05/16. CPUC review and approval 12/09/16 Refresher training material submitted to CPUC 09/09/17 Refresher training review and approval 090717 SEAP training sheets submitted to CPUC monthly. Hazardous materials spill prevention and response plan ongoing.
APM/Mitigation Measure Title	**Mitigation Measure Hazards-3: Hazardous Substance Control and Emergency Response Plan**
Measure Text	SDG&E shall prepare and incorporate methods and techniques to minimize the exposure of the public to potentially hazardous materials during all phases of project construction and post-construction operation into a Hazardous Substance Control and Emergency Response Plan (HSCERP). The HSCERP shall be submitted to CPUC for recordkeeping at least 30 days prior to project construction. The HSCERP measures shall require implementation of appropriate control methods and approved containment (e.g., use of partial

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	or total enclosures, hazardous material handling methods and employee training, ventilation requirements) and spill control practices for construction and on-site hazardous material storage. All hazardous materials and hazardous wastes shall be handled, stored, and disposed of in accordance with all applicable regulations by personnel qualified to handle hazardous materials. With the exception of wood poles, the plan shall specify that all hazardous materials shall be collected and stored in project-specific containers until they are transported to an appropriately licensed and permitted waste disposal facility. Wood poles shall be transported off site once removed from the ground and temporarily stored in project-specific containers at an SDG&E facility. As containers are filled, poles shall be transported to an appropriately licensed Class I landfill or the compost-lined portion of a solid waste landfill. The HSCERP measures shall also include, but not be limited to, the following: • Proper disposal of contaminated soils • Daily inspection of vehicles and equipment parking near sensitive resource areas during construction and spill containment procedures • Emergency response and reporting procedures to address hazardous material releases • Adequate operation and safety buffering and grounding measures • Fueling of any vehicles, equipment, and helicopters in staging yards or on streets paved with secondary containment and away from sensitive resource areas (e.g., preserves, designated open space areas, conserved habitat) The measures shall specify that emergency spill supplies and equipment shall be available to respond in a timely manner if an incident should occur. Response materials such as oil-absorbent material, tarps, and storage drums shall be available at the project site at all times during construction and shall be used as needed to contain and control any minor releases.
Location	All locations where hazardous materials are stored or handled and where construction vehicles and equipment are used
Monitoring/Reporting Action	Daily inspection logs for vehicles and equipment are submitted. Verify that hazardous materials are properly stored, fueling occurs in designated areas, and any contaminated soil or materials are transported to an appropriate facility.
Effectiveness Criteria	Hazardous materials are controlled and contained to minimize public exposure.
Status	**Complete**
Review/Approval	Procedures were in place to handle hazardous materials.
APM/Mitigation Measure Title	**Mitigation Measure Hazards-4: Uncover Existing Utility Pipelines**
Measure Text	SDG&E shall excavate ("pothole") to the top of any buried existing utilities, including pipelines, that are located within 10 feet of a proposed excavation (e.g., pole foundation, retaining wall footing, duct bank, or vault structure) to verify the location of the existing utility prior to initiating excavation work. Potholing work shall be performed using a non-destructive method (e.g., air vacuum extraction) that will not damage an existing pipeline once it is encountered. Potholing work shall be conducted under the oversight of a

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	representative of the appropriate utility company. Potholing shall reveal the top of the pipeline only and shall not go any deeper than the top of the pipe so as to not damage the pipe in any way. Two potholes shall be excavated at each associated foundation location so that the orientation of existing pipelines can be verified. Potholes shall be backfilled with stockpiled soil once the location and orientation of the pipeline has been verified and marked. The utility company representative shall verify and approve that backfill and compaction of the potholes has been performed adequately. If the pipeline is located within the footprint of a proposed pole foundation, no pole foundation excavation work shall commence until SDG&E and CPUC have been notified and the pole location has been relocated sufficiently far away from the buried pipeline.
Location	Excavation areas within 10 feet of existing utilities
Monitoring/Reporting Action	SDG&E maintains records of potholing activities and reports any proposed pole or underground alignment relocations to the CPUC. The CPUC verifies that potholing work was adequately completed to verify the location of and mark existing utilities in the vicinity.
Effectiveness Criteria	Damage of existing utilities is avoided.
Status	**Complete**
Review/Approval	**N/A**
APM/Mitigation Measure Title	**Mitigation Measure Hazards-5: Soil and Groundwater Testing**
Measure Text	In the event that soils to be excavated are found to be contaminated, the excavated soil shall be treated as hazardous materials and disposed of in compliance with state and federal regulations and SDG&E operational procedures. Effective dust suppression procedures will be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the State of California (DTSC or RWQCB) and San Diego County shall be contacted by SDG&E or its contractor to plan handling, treatment, and/or disposal options.
Location	Where hazardous materials are encountered in soils proposed for excavation
Monitoring/Reporting Action	Verify hazardous materials are properly disposed of and all soils containing hazardous materials are managed to avoid dust generation.
Effectiveness Criteria	Soils containing hazardous materials are disposed of in compliance with regulations and hazardous materials in the soil do not become airborne.
Status	**N/A.** No hazardous soils or groundwater encountered.
Review/Approval	**N/A**
APM/Mitigation Measure Title	**Mitigation Measure Hazards-6: Unexploded Ordnance Investigation**
Measure Text	As part of the NEPA review and Tier 1 application process required for construction within MCAS Miramar, SDG&E shall comply with Naval Sea Systems Command (NAVSEA) OP 5 safety requirements for shore-based operations. SDG&E shall perform a survey of identified Formerly Used Defense Sites (FUDS) database sites prior to the start of construction to identify potential

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	unexploded ordnance locations. SDG&E shall obtain a trained contractor for the pre-construction survey, personnel training, and removal of all unexploded ordnance that are found in the Project area. An unexploded ordnance investigation of known and potential areas used by the military along the ROW shall be undertaken by a trained contractor. If unexploded ordnance are found, they shall be removed by the trained contractor. To comply with NAVSEA OP 5 requirements, all personnel involved in excavation, grading, or ROW clearing shall be educated by the trained contractor to recognize unexploded ordnance.
Location	ROW areas within MCAS Miramar
Monitoring/Reporting Action	Unexploded ordnance have been removed by a trained contractor.
Effectiveness Criteria	Unexploded ordnance from work areas and vicinity are safely removed.
Status	**Complete** UXO consultant on site during construction. UXO training complete. As of project energization on August 29, 2018, a total of 1,851 personnel completed the UXO training.
Review/Approval	UXO training material submitted to CPUC 12/05/16 CPUC review and approval 12/09/16 Refresher training material submitted to CPUC 09/09/17 CPUC review and approval 12/09/16 Refresher training review and approval 09/07/17 CPUC EM verified UXO consultant on site 07/13/17
APM/Mitigation Measure Title	**APM HAZ-2: Consistency with State and Federal Regulations**
Measure Text	SDG&E shall address potential impacts relating to the handling and use of hazardous materials through compliance with numerous state and federal regulations, including, but not limited to: • Federal Occupational Safety and Health Administration (OSHA) regulations for worker safety in hazardous material remediation and hazardous waste operations (29 CFR Section 1910.120) • Federal OSHA regulations hazard communication for workers (29 CFR Section 1910.1200) • Federal OSHA regulations for toxic air contaminants for workers (29 CFR Section 1910.1000) • CalOSHA regulations for worker safety in hazardous material remediation and hazardous waste operations (8 California Code of Regulations [CCR] 5192), • CalOSHA regulations for hazard communication for workers (8 CCR 5194), and • Department of Toxic Substances Control (DTSC) regulations implementing Resource Conservation and Recovery Act of 1976 (RCRA) and the California Hazardous Waste Control Law (HWCL) (22 CCR Division 4.5). SDG&E would implement standard operational procedures for the transport, use, storage, and disposal of hazardous materials. This includes, but is not limited to the use of absorbent pads for spill containment, specified locations

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	for construction vehicle refueling, and a daily vehicle inspection schedule designed to identify leaking fuels and/or oils as early as possible.
Location	All areas where equipment and vehicles are used
Monitoring/Reporting Action	Verify absorbent pads are readily available, and compliance with all laws regarding hazardous materials management. Vehicles leaking hazardous materials are identified as early as possible and fixed.
Effectiveness Criteria	SDG&E complies with laws pertaining to hazardous materials and toxic air contaminant exposure for workers.
Status	**Complete**
Review/Approval	Procedures were in place to handle hazardous materials.
APM/Mitigation Measure Title	**APM HAZ-3: SDG&E Compliance Management Programs**
Measure Text	The construction contractors would implement (in addition to regulatory and SDG&E requirements) their own compliance management programs to ensure that regulatory requirements are adhered to and that worker and public safety are secured.
Location	All work areas
Monitoring/Reporting Action	Verify that the contractor implements compliance management programs to comply with regulatory requirements and protect worker safety.
Effectiveness Criteria	Contractor properly implements compliance management programs.
Status	**Complete**
Review/Approval	CPUC EMs verified contractors implemented compliance management programs.
APM/Mitigation Measure Title	**Mitigation Measure Hydrology-1: SWPPP and Treatment of Shallow Groundwater Discharge**
Measure Text	SDG&E shall prepare a Stormwater Pollution Prevention Plan in compliance with the State Water Resources Control Board Construction General Permit CAS000002 (Order No. 2012-0006-DWQ) and City of San Diego Stormwater Standards Manual (2012). Project construction plans and the SWPPP shall be submitted to the CPUC and the City of San Diego for review and approval prior to construction. The SWPPP shall address erosion and sedimentation control, groundwater dewatering procedures, hazardous materials identification, handling, disposal and emergency spill procedures, and any other best management procedures necessary to prevent sediment or contaminants from entering Los Peñasquitos Creek. Groundwater extracted during construction dewatering shall not be discharged to any surface waters or storm drains. If dewatering is necessary, the water shall either be used: (i) to irrigate upland areas, (ii) for dust control, or (iii) as makeup for a construction process (e.g., concrete production). If dewatering of contaminated groundwater is necessary, the water shall be disposed of in accordance with all applicable laws and procedures described in the SWPPP.
Location	All areas of disturbance and groundwater dewatering

Category	Measure Requirement/Application
Monitoring/Reporting Action	SDG&E conducts monitoring as required by the SWPPP. Verify groundwater extraction procedures are properly implemented.
Effectiveness Criteria	Erosion and sediment controls are properly implemented and groundwater dewatering complies with all laws for water quality protection.
Status	**Complete.** SWPPP approved 12/16/16.
Review/Approval	CPUC EMs verified SWPPP was implemented.
APM/Mitigation Measure Title	**Mitigation Measure Hydrology-2: Restrict Dust Control Water Usage**
Measure Text	Water shall only be applied under APM AIR-1 to maintain moist soils. No water shall be applied during or immediately following rain events when soils are already damp. Dust control water shall be applied in a manner that does not create or contribute to runoff.
Location	All areas of earth disturbance
Monitoring/Reporting Action	Verify that dust control water is only applied as needed and does not create runoff.
Effectiveness Criteria	No runoff is created as a result of dust control watering.
Status	**Complete**
Review/Approval	CPUC EMs verified no runoff was created.
APM/Mitigation Measure Title	**Mitigation Measure Hydrology-4: Underground Construction Only During Dry Conditions**
Measure Text	Construction of the underground transmission line across any creeks or natural drainages shall only occur when the watercourse is dry and no less than 72 hours after any rain event. No construction shall occur within any stream, or other aquatic resource within 48 hours of a rain event with a forecast of 50 percent or greater chance of precipitation. A CPUC-approved aquatic resource monitor shall evaluate all work areas where construction is on-going after a rain event to determine if conditions are dry enough to resume construction activities. No earthwork shall occur within any Water of the State prior to SDG&E obtaining Waste Discharge Requirements or Section 401 Water Quality Certification from San Diego Regional Water Quality Control Board.
Location	Underground crossings of creeks and drainages
Monitoring/Reporting Action	Verify that underground crossing of creeks occurs when the creek is dry and at least 72 hours after a rain event.
Effectiveness Criteria	Work within streams is avoided during rain events and when the creek/stream has flowing water to avoid water quality impacts from work within the stream.
Status	**Complete**
Review/Approval	CPUC EMs verified construction did not occur during rain events.
APM/Mitigation Measure Title	**APM HYDRO-3: Avoid Jurisdictional Drainages**

Category	Measure Requirement/Application
Measure Text	To avoid impacts to jurisdictional drainages during road refreshing or reestablishment activities, the following minimization measures would be implemented: • Any excess soil would be spread on site outside of jurisdictional drainages to match existing contours and property compacted or hauled off site. • Graded areas would be stabilized to promote infiltration and reduce run-off potential. • Erosion protection and sediment control BMPs would be implemented in compliance with the General Construction General Permit, Stormwater Pollution Prevention Plan (SWPPP), SDG&E Water Quality Construction BMPs Manual (BMP Manual), and the SDG&E Subregional Natural Community Conservation Program (NCCP). • At designated jurisdictional drainage crossings locations along the access roads, the blade of the smoothing equipment would be lifted 25 feet on either side of the drainage to avoid impacts.
Location	Within and near jurisdictional drainage along access roads
Monitoring/Reporting Action	Verify that excess soil is not disposed of in drainages, BMPs are properly implemented, and vehicle blades are lifted within 25 feet of all drainages.
Effectiveness Criteria	No grading or unauthorized soil discharge occurs within jurisdictional drainages.
Status	**Complete**
Review/Approval	CPUC EMs verified no grading or unauthorized soil discharge occurred within jurisdictional drainages.
APM/Mitigation Measure Title	**Mitigation Measure Noise-1: Resident Notification and Complaints**
Measure Text	SDG&E shall provide notice by mail at least 1 week prior to construction activities to all sensitive receptors and residences within 500 feet of construction sites, staging yards, and access roads, and within 1,000 feet of helicopter fly yards and flight paths. SDG&E shall also post notices in public areas, including recreational use areas, within 300 feet of the project alignment and construction work areas. The announcement shall state where and when construction will occur in the area. For areas that would be exposed to helicopter noise, the announcement shall provide details on the schedule of the dates, times, and duration of helicopter activities. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. 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. SDG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person shall be included in the above notices and also posted conspicuously at the construction site(s). SDG&E shall address all complaints within 1 week of when the complaint is filed. SDG&E shall provide monthly reports with records of complaints and responses to the CPUC. These reports shall be provided to CPUC within 15 days of the end of the month.

<table>
<tr><th>Category</th><th>Measure Requirement/Application</th></tr>
<tr><td>Location</td><td>All locations where construction activities occur within 500 feet of sensitive receptors and where helicopter fly yards occur within 1,000 feet of sensitive receptors</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>SDG&E files monthly reports regarding noise complaints.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Complaints are addressed.</td></tr>
<tr><td>Status</td><td>Complete. Notice was sent to residents and sensitive receptors located within 1,000 feet of all Project components on the following dates:
<table>
<tr><td>12/09/16</td><td>01/24/17</td><td>05/10/17</td><td>06/13/17</td></tr>
<tr><td>06/30/17</td><td>08/24/17</td><td>10/10/17</td><td>10/27/17</td></tr>
<tr><td>01/10/18</td><td>02/02/18</td><td>02/22/18</td><td>03/16/18</td></tr>
<tr><td>04/05/18</td><td>04/13/18</td><td>05/11/18</td><td>08/14/17</td></tr>
</table></td></tr>
<tr><td>Review/Approval</td><td>N/A</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>Mitigation Measure Noise-2: Noise-suppression Techniques</td></tr>
<tr><td>Measure Text</td><td>SDG&E shall implement the following noise-suppression techniques to avoid possible violations of local rules, standards, and ordinances from construction noise:
Night and Sunday construction activities shall be limited to activities that will not produce noise greater than 40 dBA at the nearest receptor (school, residence, hospital, or place of worship). Construction activities permitted to occur during nights and Sundays include:
Arrival and departure of workers at staging yards
Construction management tailboard meetings
Staging yard operations including maintenance of equipment and material deliveries
Security operations in yards and at locations where equipment/material is stored on the ROW overnight
SDG&E shall apply for and obtain a construction noise permit from the City of San Diego and the City of Poway for construction activities that must occur outside of the daytime hours allowed by local ordinances in each jurisdiction. SDG&E shall submit a copy of approved construction noise permit to the CPUC at least two weeks prior to construction activities requiring the variance. The CPUC will not authorize any work outside of locally permitted construction hours that would exceed local standards without an approved construction noise permit.
Sound walls or acoustic blankets shall be temporarily installed to shield adjacent residences from stationary equipment (e.g., generators) where residences are located within 200 feet and schools are located within 300 feet of the equipment and where adequate room for sound walls or acoustic blankets exists. The sound walls or acoustic blankets shall have a height of no less than 3 feet greater than noise-generating piece(s) or parts of equipment, a Sound Transmission Class (STC) of 19 or greater, and a surface with a solid face from top to bottom without any openings or cutouts along the face or at the base of the barrier. If sound walls or acoustic blankets would not reduce noise levels to below acceptable limits or if an oversight agency (i.e., City of San Diego or Caltrans) does not approve of the installation of sound walls within encroachment permits</td></tr>
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Category	Measure Requirement/Application
	and/or traffic control plans, SDG&E shall offer to relocate affected residents depending on the location of the residences and the level of construction noise for the duration of the noise-generating activity. • Construction traffic shall be routed away from residences and schools, where feasible. • Unnecessary construction vehicle use 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. If a vehicle is not required for use immediately or continuously for construction activities, its engine shall be shut off.
Location	At construction work areas in the vicinity of sensitive receptors
Monitoring/Reporting Action	SDG&E provides copies of any construction noise permits or variances received to the CPUC at least two weeks prior to construction activities requiring the variance. Verify that activities occurring outside of approved hours meet the requirements in the measure or permit and sound walls (if required) are properly implemented.
Effectiveness Criteria	Construction noise is generally limited to daytime hours, and sound walls or acoustic blankets are used to reduce impacts on noise sensitive receptors.
Status	**Complete**
Review/Approval	Noise permits received by CPUC on the following dates: 03/28/17, 04/04/17, 04/48/17, 05/15/17, 05/19/17, 06/02/17, 06/27/17, 07/18/17, 08/11/17, 08/28/17, 08/31/18, 09/14/17, 09/15/17, 09/24/17, 10/26/17, 11/09/17, 11/20/17, 11/27/17, 12/07/17, 12/15/17, 12/21/17, 01/25/17, 02/05/17, 02/15/18, 02/22/18, 03/01/18, 03/12/18, 03/15/08, 03/23/18, 03/29/18, 04/10/18, 04/12/18, 04/17/18, 04/24/18, 05/01/18, 05/10/18, 05/18/18, 05/22/18, 05/31/18, 06/07/18, 06/27/18, 07/10/18, 07/12/18, 07/26/18
APM/Mitigation Measure Title	**Mitigation Measure Noise-3: Helicopter Take-off and Landing Areas**
Measure Text	Helicopter takeoff and landing areas shall be located a minimum of 300 feet from the nearest sensitive receptor. Helicopter takeoff and landing shall only occur from the hours of 7 AM to 7 PM in the City of San Diego and 7 AM to 5 PM in the City of Poway. No helicopter takeoff and landing areas shall be permitted at the Evergreen Nursery staging yard due to the close proximity of sensitive receptors adjacent to this staging yard.
Location	Helicopter take-off and landing areas
Monitoring/Reporting Action	Verify locations of helicopter take-off and landing are at least 300 feet from the nearest sensitive receptor, and helicopter take-off and landing occurs during approved hours.
Effectiveness Criteria	Helicopter noise is restricted to reduce impacts on sensitive receptors.
Status	Helicopter take-off and landing area was Stonebridge Staging Area.
Review/Approval	CPUC EMs verified helicopter take-off and landing adhered to measure requirements
APM/Mitigation Measure Title	**Mitigation Measure Noise-4: Corona Rings**

Category	Measure Requirement/Application
Measure Text	SDG&E shall install corona rings on all insulators to minimize the effects of corona along the 230-kV transmission line.
Location	Overhead transmission line insulators
Monitoring/Reporting Action	Verify that corona rings are installed on transmission line insulators.
Effectiveness Criteria	Corona rings are installed to reduce corona noise.
Status	**Complete.** Corona rings have been installed on all insulators and surge arrestors.
Review/Approval	CPUC EM verified corona rings were installed.
APM/Mitigation Measure Title	**Mitigation Measure Noise-6: Coordinate Construction Activity with Schools**
Measure Text	SDG&E shall coordinate with local schools at least 48 hours prior to helicopter and construction activities within 1,000 feet of a school to schedule helicopter activities and transmission line construction activities, including power pole installation and trenching activities. SDG&E shall file a Congested Area Plan with the FAA (see Mitigation Measure Traffic-2) and file all relevant helicopter information with the Department of Transportation Aeronautical Division when using helicopters to conduct transmission line construction activities with 1,000 feet of a school. No activities shall be allowed within 300 feet of school properties at times when classes are in session. Helicopter activities and construction near schools shall be conducted outside of active instruction periods (e.g., before school, after school, during lunch or classroom breaks). Schools shall be notified of any helicopter activities that would occur within 1,000 feet of school property at least 30 days prior to helicopter use.
Location	Helicopter use within 1,000 feet of schools or construction within 300 feet of schools
Monitoring/Reporting Action	SDG&E files congested area plan with FAA. Verify that helicopter activities and construction within 300 feet of schools are conducted outside of active instructional periods.
Effectiveness Criteria	Noise-related disruption of school instructional periods are avoided.
Status	**Complete.** Congested Area Plan submitted to FAA and approved 10/20/17. Submitted to CPUC on 10/25/17 and reviewed. Helicopter activity not within 1000 feet of a school so no notice or scheduling required. For construction activity, SDG&E also met with the following schools: St. Gregory-01/25/17; Chabad-02/03/17; Jerabek Elementary-02/07/27; Alliant University-02/10/17; Dingeman Elementary-2/21/17; Marshall Middle-02/22/17; Ellen Browning Scripps Elementary-02/23/17; Poway Unified School District-03/01/17.
Review/Approval	FAA approval 10/20/17. CPUC review 1015/17. No CPUC approval required.
APM/Mitigation Measure Title	**Mitigation Measure Paleontology-1: Paleontological Monitoring**
Measure Text	Paleontological monitoring shall be required for all ground-disturbing activities that occur in in formations determined to have a moderate to high paleontological sensitivity; ground-disturbing activities that occur areas with indeterminate, low, or marginal paleontological sensitivity may be conducted

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	on a part-time basis at the discretion of the qualified paleontologist, and areas with zero paleontological sensitivity will not require monitoring. Paleontological monitoring shall be conducted by a qualified paleontological monitor under the direction of a CPUC-approved, qualified paleontologist. The qualified paleontologist shall have a Master's or PhD in paleontology, have knowledge of the local paleontology, and be familiar with paleontological procedures and techniques. Paleontological monitoring shall also be required for all construction activities that require excavation, grading, or augering of 5 feet in diameter or greater at depths greater than 5 feet only in areas where these activities will disturb previously undisturbed strata in moderate to high paleontologically sensitive formations.
Location	Ground-disturbing locations within areas of moderate or high paleontological sensitivity
Monitoring/Reporting Action	Verify that a paleontological monitor is present during ground-disturbing activities in areas of moderate or high paleontological sensitivity.
Effectiveness Criteria	A qualified paleontologist is present to minimize impacts on and recover paleontological resources encountered.
Status	**Complete**
Review/Approval	CPUC EMs observed paleontological monitors on site.
APM/Mitigation Measure Title	**Mitigation Measure Paleontology-3: Avoidance of Resources or Other Methods of Mitigation**
Measure Text	In the event that a previously unidentified paleontological resource is uncovered during project implementation, all ground-disturbing work within 50 feet (15 meters) of the discovery shall be halted. A CPUC-approved, qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, the qualified paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part V. If the resource is determined to be unique, the determination and associated plan for protection of the resource shall be provided to CPUC for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the qualified paleontologist shall consult with SDG&E and CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines (SVP 2010) standards. Work may commence upon completion of treatment, as approved by CPUC. A final summary report shall be completed. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.

Category	Measure Requirement/Application
	The report shall also include an itemized inventory of all collected and catalogued fossil specimens.
Location	Where paleontological resources area encountered
Monitoring/Reporting Action	SDG&E provides plan for protection of unique paleontological resources. Verify that work is halted within 50 feet of any paleontological discovery and any unique resources that cannot be avoided are recovered and addressed in a final summary report.
Effectiveness Criteria	Avoid impacts on or recover and curate unique paleontological resources.
Status	**Complete.** Final summary report to be submitted January 2019.
Review/Approval	CPUC EMs verified resources were avoided.
APM/Mitigation Measure Title	**Mitigation Measure Recreation-3: Maintain Access to Recreational Facilities**
Measure Text	SDG&E shall coordinate the temporary closure of any public baseball or soccer fields and parking spaces with the City of San Diego and authorized park officer at least 90 days prior to construction within a park to avoid peak use of the facilities. SDG&E shall maintain a safe pedestrian access path between the parking lot and baseball fields during construction.
Location	Parks requiring closure
Monitoring/Reporting Action	Verify that safe pedestrian access to recreational facilities is maintained during construction.
Effectiveness Criteria	Park closures occur during non-peak use periods and safe pedestrian access is maintained to recreational facilities.
Status	**Complete.** The closure of Sycamore Canyon Park during conductor stringing occurred during non-peak hours.
Review/Approval	CPUC EM verified park was reopened for peak hours. Safe access was maintained during closure.
APM/Mitigation Measure Title	**Mitigation Measure Recreation-4: Flag Person at Trail Crossings**
Measure Text	To avoid trail closures during overhead wire stringing, SDG&E shall position a flag person (similar to traffic controllers) at each trail crossing location to direct trail users when it is safe to pass.
Location	Overhead stringing at trail crossings
Monitoring/Reporting Action	Verify that a flag person is positioned to direct trail users during overhead stringing activities at trail locations.
Effectiveness Criteria	Maintain safety of trail users and avoid accidents during construction.
Status	**Complete.** Flaggers were positioned on Stonebridge Parkway during overhead stringing.
Review/Approval	CPUC EM verified flaggers were present on Stonebridge Parkway during overhead stringing.

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**APM REC-1: Coordination with Parks and Preserves, and Buffer Between Active Work Areas and Trails.**
Measure Text	Appropriate safety measures will be implemented where trails and parks are located in close proximity to construction areas to provide a safety buffer between recreational users and construction areas. Construction schedule and activities will be coordinated with the authorized officer for each affected recreation area.
Location	Locations where construction is located in the vicinity of recreational areas
Monitoring/Reporting Action	Verify that safety measures and buffers are appropriately implemented to protect recreational users.
Effectiveness Criteria	Maintain safety of recreational users during construction.
Status	**Complete.** SDG&E posted a Sycamore Canyon Park Closure notice at 13745 Stonebridge Parkway and in the surrounding community in anticipation of the helicopter activities beginning November 2, 2017.
Review/Approval	CPUC EM observed the park closure notice and buffers.
APM/Mitigation Measure Title	**APM REC-2: Temporary Trail Detours**
Measure Text	Where feasible, temporary detours will be provided for trail users. Signs will be posted to direct trail users to temporary trail detours.
Location	Temporary trail detours
Monitoring/Reporting Action	Verify that signage is in place to direct users to temporary trail detours.
Effectiveness Criteria	Temporary detours are provided for trail users when trail segments require closure.
Status	**N/A**
Review/Approval	N/A
APM/Mitigation Measure Title	**APM PS-1: Temporary Access**
Measure Text	Where construction within existing public parks, preserves, and open space areas would not completely restrict access through these areas, and where necessary, SDG&E will create temporary foot and bicycle paths along with appropriate advanced notice and signage to direct and allow for the pedestrian and bicycle access through each affected park.
Location	Public parks, preserves and open spaces near construction areas
Monitoring/Reporting Action	Verify notice is posted regarding alternative access where park access may be affected.
Effectiveness Criteria	Avoid impacts on access to recreational areas.
Status	**N/A**
Review/Approval	N/A

<table>
<tr><th>Category</th><th>Measure Requirement/Application</th></tr>
<tr><td>APM/Mitigation Measure Title</td><td>APM PS-2: Notification of Construction</td></tr>
<tr><td>Measure Text</td><td>SDG&E will provide the public with advance notification of construction activities. Concerns related to dust, noise, and access restrictions with construction activities will be addressed within this notification.</td></tr>
<tr><td>Location</td><td>All work areas</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>SDG&E notifies the public within 1,000 feet of Project work areas by public mailer of construction activities prior to construction.</td></tr>
<tr><td>Effectiveness Criteria</td><td>The public is notified in advance of construction activities.</td></tr>
<tr><td>Status</td><td>Complete. The public was notified on the following dates:
<table>
<tr><td>12/09/16</td><td>01/24/17</td><td>05/10/17</td><td>06/13/17</td></tr>
<tr><td>06/30/17</td><td>08/24/17</td><td>10/10/17</td><td>10/27/17</td></tr>
<tr><td>01/10/18</td><td>02/02/18</td><td>02/22/18</td><td>03/16/18</td></tr>
<tr><td>04/05/18</td><td>04/13/18</td><td>05/11/18</td><td>08/14/18</td></tr>
</table></td></tr>
<tr><td>Review/Approval</td><td>CPUC received confirmation of notifications.</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>APM PS-3: Coordination with Recreation Facilities</td></tr>
<tr><td>Measure Text</td><td>All construction activities will be coordinated with the authorized officer for each affected park, trail, or recreational facility prior to construction in these areas.</td></tr>
<tr><td>Location</td><td>Locations where construction activities would occur in recreational facilities</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify coordination with the authorized officer of each affected park.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Reduce impacts on park operation throughout advance notice and coordination with the facility manager.</td></tr>
<tr><td>Status</td><td>Complete. Closure of Sycamore Canyon Park was coordinated with San Diego staff.</td></tr>
<tr><td>Review/Approval</td><td>CPUC received email verification.</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>APM PS-4: Signage</td></tr>
<tr><td>Measure Text</td><td>As needed, signs will be posted directing vehicles to alternative park access and parking, if available, in the event construction temporarily affects parking near trailheads.</td></tr>
<tr><td>Location</td><td>Construction near trail head parking areas</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify signage is posted near affected trailheads.</td></tr>
<tr><td>Effectiveness Criteria</td><td>The public is properly notified about impacts on parking near trailheads.</td></tr>
<tr><td>Status</td><td>N/A</td></tr>
<tr><td>Review/Approval</td><td>N/A</td></tr>
</table>

Category	Measure Requirement/Application
APM/Mitigation Measure Title	**Mitigation Measure Traffic-1: Construction Transportation Management Plan**
Measure Text	SDG&E shall develop and implement a project-specific Construction Transportation Management Plan (CTMP). SDG&E shall submit the plan to CPUC for review and approval at least 30 days prior to construction. The CTMP shall conform to the California Joint Utility Traffic Control Committee's Work Area Protection and Traffic Control Manual. The CTMP shall include provisions for the following: • Implementation of standard safety practices, including installation of appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices. • Use of flaggers and/or signage to guide vehicles through or around construction zones using proper techniques for construction activities including staging yard entrance and exit. • Alternate traffic routes and the use of construction personnel carpools or shuttles to avoid roads that are operating at LOS D or lower. • Traffic detours for any road or lane closures with appropriate signage marking the detours. • Timing of worker commutes and material deliveries to avoid peak commuting hours. • Timing of lane and road closures. • Locations that would be accessed and receive material deliveries via helicopter. • Plans for construction worker parking and transportation to work sites • Methods for keeping roadways clean. • Storage of all equipment and materials in designated work areas in a manner that minimizes traffic obstructions and maximizes sign visibility. • Limiting of vehicles to safe speed levels according to posted speed limits, road conditions, and weather conditions. • Coordination with public transit providers. • Routing of trucks to avoid minor roads, where possible, to reduce congestion and potential asphalt damage. • Repair of asphalt and other road damage (e.g., curb and gutter damage, rutting in unpaved roads) caused by construction vehicles. • Detours for cyclists and pedestrians when bike lanes or sidewalks must be closed. • Abiding by encroachment permit conditions, which shall supersede conflicting provisions in the CTMP. The CTMP must at a minimum comply with the requirements of the appropriate City and must be submitted to the respective cities for review and approval at least 60 days prior to commencing construction activities.
Location	Lane and road closures or traffic detours
Monitoring/Reporting Action	Verify CTMP has been approved and is implemented where required. Verify appropriate signage is in place.
Effectiveness Criteria	SDG&E complies with City requirements. Vehicle, pedestrian, and bicycle safety during construction in roadways is maintained.
Status	**Complete**

Category	Measure Requirement/Application
Review/Approval	CTMP for NTP #1 approved 01/03/17. Final TCPs approved 03/09/17.
APM/Mitigation Measure Title	**Mitigation Measure Traffic-4: Temporary Traffic Control Measures**
Measure Text	Prior to conductor stringing, SDG&E shall determine whether a temporary road closure or temporary support measures to protect traffic, such as guard structures or netting across roadways that would catch and support the conductor above traffic, would be necessary in the event that tension control of the conductor is lost during installation. The selected temporary measures to be incorporated shall be identified on construction plans and installed by SDG&E in advance of construction and shall remain in place until the conductor is clipped into support hardware on the transmission line structures. SDG&E shall implement all traffic control procedures and measures defined in Mitigation Measure Traffic-1 during installation of temporary support measures or temporary road closure.
Location	Overhead crossing of highways
Monitoring/Reporting Action	Verify that netting or guard structures are in place where needed.
Effectiveness Criteria	Measures are in place to prevent conductor from falling on the highway or road.
Status	**Complete.** Temporary guard structures were installed and removed after conductor stringing was completed.
Review/Approval	CPUC EMs verified guard structures were installed.
APM/Mitigation Measure Title	**Mitigation Measure Traffic-5: Highway Closure Plans**
Measure Text	SDG&E shall prepare and submit to Caltrans closure plans as part of the encroachment permit application at least 30 days prior to crossings of SR-56 and I-15. The plans shall require that closure or partial closure of SR-56 and I-15 be limited to off-peak, non-daytime hours, from 10 PM to 5 AM, and that signage be posted prior to the closure to alert drivers of the closure in accordance with Caltrans requirements. Highway closure times will be reviewed and approved by Caltrans to minimize delay to SR-56 and I-15 traffic. The plan shall also outline suggested detours to use during the closures, traffic, including routes and signage. No work shall begin in Caltrans right-of-way until the encroachment permit and Highway Closure Plan are approved by Caltrans. Should emergency evacuation occur prior to or during the highway closure, the closure shall be delayed or ceased to allow unimpeded flow of traffic.
Location	Crossing of I-15
Monitoring/Reporting Action	Verify implementation of the Caltrans-approved highway closure plan, including delaying or ceasing a highway closure if emergency evacuation is necessary.
Effectiveness Criteria	The highway closure plan is implemented to minimize delays to traffic on I-15.
Status	**N/A**

Category	Measure Requirement/Application
Review/Approval	N/A
APM/Mitigation Measure Title	**Mitigation Measure Traffic-6: Restrict Road Closures and Maintain Access**
Measure Text	SDG&E shall restrict all necessary lane closures or obstructions associated with overhead or underground construction activities to off-peak periods to reduce traffic delays. Lane closures must not occur between 6:00 and 9:30 AM and between 3:30 and 6:30 PM, unless otherwise directed in writing by the responsible public agency issuing an encroachment permit. SDG&E shall coordinate with schools prior to construction within 1,000 feet of school property to ensure entryways to schools are not blocked during peak drop-off and pick-up hours. Underground work areas within intersections or traffic lanes shall be adequately covered with steel plating prior to 3:30 PM to allow uninterrupted traffic flow during peak traffic periods. All residents within 300 feet of proposed temporary lane or road closures shall be notified at least 7 days prior to a temporary lane or road closure. SDG&E shall maintain travel through intersections at all times during construction. Access to driveways including entrances to residential communities shall be maintained at all times during construction. SDG&E or its construction contractors shall provide the ability to quickly lay a temporary steel plate trench bridge upon request in order to ensure driveway access to schools, businesses, and residences and shall provide continuous access to properties when not actively constructing the underground cable alignment. In the event of a nearby fire or other emergency, steel plating shall be placed over underground work areas and construction equipment shall be removed from the partially or fully closed roadways, as needed, to permit uninterrupted traffic flow.
Location	Lane closures
Monitoring/Reporting Action	Verify lane closures are limited to approved hours and advance coordination occurs with schools in the vicinity of lane closures. Verify access is maintained to driveways at all times.
Effectiveness Criteria	Impacts on traffic flow are minimized and access to residential areas or schools is not obstructed.
Status	**Complete**
Review/Approval	CPUC EMs verified access was maintained.
APM/Mitigation Measure Title	**Mitigation Measure Traffic-7: Closure Notification and Detours**
Measure Text	Where construction results 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. Where construction activity results in bike route or bike path closures, appropriate detours shall be defined. Signs shall be placed along the closed bike path a minimum of 7 days prior to bike path closure notifying bicyclists of the proposed construction activities and duration of bike path closure. Notifications posted along the bike path shall include the locations of detours and alternate routes to avoid conflicts with the construction area.
Location	Bicycle path closure areas

<table>
<tr><th>Category</th><th>Measure Requirement/Application</th></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify notification of bike path closure has been posted.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Bicyclists are notified of the closure and directed to alternative safe travel routes.</td></tr>
<tr><td>Status</td><td>Complete. No bike paths were closed. Some bile lanes were closed during construction. Signs were posted.</td></tr>
<tr><td>Review/Approval</td><td>EMs verified traffic control protected bicyclists and pedestrians,</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>Mitigation Measure Traffic-8: Notify Emergency Personnel of Road Closures</td></tr>
<tr><td>Measure Text</td><td>SDG&E shall notify local emergency personnel (i.e., fire departments, police departments, ambulance, and paramedic services) at least 1 week prior to lane or road closures. The notice shall include location(s), date(s), time(s), and duration of closure(s), and a contact number for SDG&E project personnel.</td></tr>
<tr><td>Location</td><td>Lane closures</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify notification has been submitted to local emergency personnel at least 1 week prior to road or lane closures.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Emergency personnel are notified of lane closures in advance of the closure activity to avoid or reduce conflicts with emergency response times.</td></tr>
<tr><td>Status</td><td>Complete. Emergency Personnel were notified on the following dates:
<table>
<tr><td>12/09/16</td><td>01/24/17</td><td>05/10/17</td><td>06/13/17</td></tr>
<tr><td>06/30/17</td><td>08/24/17</td><td>10/10/17</td><td>10/27/17</td></tr>
<tr><td>01/10/18</td><td>02/02/18</td><td>02/22/18</td><td>03/16/18</td></tr>
<tr><td>04/05/18</td><td>04/13/18</td><td>05/11/18</td><td>08/14/17</td></tr>
</table></td></tr>
<tr><td>Review/Approval</td><td>CPUC received copies of the notifications.</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>Mitigation Measure Traffic-11: Close Roadside Parking During Vault Installation</td></tr>
<tr><td>Mitigation Measure Text</td><td>Roadside parking shall be prohibited within 100 feet of vault installation areas at least 8 hours prior to vault installation activities. SDG&E shall post notices of the parking closure at least 72 hours prior to vault installation. The notices shall define the location of the parking closure and the dates that no parking will be allowed in the area.</td></tr>
<tr><td>Location</td><td>Vault installation areas</td></tr>
<tr><td>Monitoring/Reporting Action</td><td>Verify notice is posted in areas where parking will be temporarily closed.</td></tr>
<tr><td>Effectiveness Criteria</td><td>Advance notice is given to reduce conflicts with parked vehicles.</td></tr>
<tr><td>Status</td><td>Complete. Roadside parking notices were posted.</td></tr>
<tr><td>Review/Approval</td><td>Verified in the field by EM.</td></tr>
<tr><td>APM/Mitigation Measure Title</td><td>Mitigation Measure Traffic-12: Consult with Bus and transit Services</td></tr>
</table>

Category	Measure Requirement/Application
Measure Text	SDG&E shall consult with the San Diego Metropolitan Transit System and City of San Diego School District at least one month prior to construction to coordinate construction activities adjacent to bus stops. If necessary, bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. SDG&E shall post notices of any temporary bus stop closure at least 14 days prior to temporary closure. The notices shall provide information on the nearest available bus stop on the bus route and the scheduled duration of closure.
Location	Construction areas adjacent to bus stops
Monitoring/Reporting Action	Verify required notices have been posted.
Effectiveness Criteria	Reduce conflicts with access to public transit.
Status	**N/A.** Bus stops were not relocated or closed.
Review/Approval	N/A
APM/Mitigation Measure Title	**APM TR-2: Comply with Relevant Helicopter Use Restrictions**
Measure Text	Any helicopter use will comply with all relevant usage restrictions including those imposed by the FAA and Caltrans. SDG&E and/or the construction contractor will coordinate with local air traffic control and comply with applicable FAA regulations regarding helicopter use to prevent conflict with air traffic generated by local airports. Helicopter usage will conform to acceptable hours for construction activities, as outlined within the applicable local noise codes and ordinances. As required, a Congested Area Plan (or CAP) will be implemented.
Location	Helicopter use areas
Monitoring/Reporting Action	Verify compliance with FAA requirements for helicopter use.
Effectiveness Criteria	Helicopter use complies with FAA requirements and does not conflict with local air traffic.
Status	**Complete**
Review/Approval	Helicopter use complied with FAA requirements.
APM/Mitigation Measure Title	**Mitigation Measure Utilities-1: Non-Potable Water Use for Dust Control**
Measure Text	The water supply for project construction activities (e.g., dust control, soil compaction) shall be obtained from non-potable sources and ensured in a water contract through a local water agency or district, except where jurisdictional or regulatory requirements restrict the use of non-potable water for a specified construction activity or during limited periods when non-potable water sources are offline and not available.
Location	Water filling stations
Monitoring/Reporting Action	Verify water is obtained from non-potable sources and documentation is submitted when potable water must be used.

Category	Measure Requirement/Application
Effectiveness Criteria	Non-potable water is used to the extent feasible to reduce impact on potable water supplies.
Status	**Complete**. Potable water was used in 5-gallon backpack pumps and other equipment used to hold water for fire suppression.
Review/Approval	N/A

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APPENDIX D INCIDENTS AND OCCURRENCES

APPENDIX D
INCIDENTS AND OCCURRENCES

Table D-1 List of Incidents

#	Type	Date	Applicable Measure	Description	Reported By
1	Level 1	04/12/17	MM Utilities-1: Non-Potable Water Use for Dust Control	Potable water was used in a street sweeper instead of required non-potable water.	SDG&E
2	Level 1	04/24/17	MM Biology-6: Compensatory Mitigation for Impacts to Habitat	Trash was left behind in the ROW by construction workers.	CPUC
3	Level 1	05/01/17	APM Noise-5: City Noise Variance and Blasting Guidelines	Working outside the City-approved hours from 5:00 am to 7:00 am on Carroll Canyon Road in order to finish placing trench plates over a vault.	SDG&E
4	Level 1	06/08/17	MM Fire-1: Final Fire Prevention Plan	Non-adherence to approved Fire Plan. Not all vehicles were equipped with full complement of fire tools. Not all work areas had required tools and pumps within 50-foot distance. Not all 5-gallon back-pumps were full of water.	CPUC
5	Level 2	06/15/17	MM Fire-1: Final Fire Prevention Plan	Non-adherence to approved Fire Plan. Construction personnel on Trade Street had no fire tools. Fire tools were missing from the work site on Trade Street. Construction vehicles were missing required fire tools.	CPUC
6	Level 1	07/20/17	MM Fire-1: Final Fire Prevention Plan	Non-adherence to approved Fire Plan. Employee smoking in a non-designated smoking area on Arjons Drive.	SDG&E
7	Level 1	08/16/17	APM AES-1: Visual Screening	Staging construction equipment and construction vehicles outside of approved limits at Hanson Staging Yard.	SDG&E
8	Level 3	08/28/17	MM Fire-1: Final Fire Prevention Plan	Non-adherence to approved Fire Plan. Specialty equipment backhoe repair crew operating within ROW without required fire tools, and parking backhoe on non-native grassland off Pomerado Road.	SDG&E
			MM Hazards-2: Spill Prevention, Control, and Countermeasure Plan	Non-adherence to approved Fire Plan. Specialty equipment backhoe repair crew operating within ROW without required Safety and Environmental Awareness Program (SEAP) training.	SDG&E
9	Level 1	08/29/17	APM BIO-2: SDG&E Subregional Natural Community Conservation Plan (NCCP)	Driving equipment on non-approved access road near CC MM CP.	SDG&E

APPENDIX D
INCIDENTS AND OCCURRENCES

#	Type	Date	Applicable Measure	Description	Reported By
10	Level 1	01/14/18	APM AES-2: Restore Temporarily Disturbed Areas	Existing conductor at the top phase of a de-energized line Fell. The guard structures installed at Ocean Drive Air and Sorrento Valley Blvd. caught the falling line. No damages to the surrounding streets or properties were reported. The angle at which the line was pulled off the guard structures located on Sorrento Valley Blvd during repair operations caused the structures to fall over. The guard structure located on the north side of Sorrento Valley Blvd collapsed into the Los Penasquitos Creek bed and the guard structures located on the south side of Sorrento Blvd fell onto surrounding coastal sage scrub/disturbed habitat. These areas are outside of the Project's approved work limits.	SDG&E
11	Level 3	04/27/18	MM Fire-1: Final Fire Prevention Plan	Non-adherence to approved Fire Plan. Personal vehicles for the overhead crews were parked without fire tools within the active ROW northeast of CC MM CP.	CPUC
12	Level 2	04/27/18	APM BIO-2: SDG&E Subregional Natural Community Conservation Plan (NCCP)	Construction vehicles drove outside of approved work area crushing vegetation without prior nest survey north of CC MM CP.	CPUC
13	Level 1	05/01/18	APM HAZ-1: Safety and Environmental Awareness Program	Three sub-contractors were on site at P05 without Safety and Environmental Awareness Program (SEAP) training.	SDG&E
14	Level 1	06/28/18	MM Hydro-1: Temporary BMPs	Installation of BMPs and clean-up activities outside of the approved Project limits. Two non-storm water discharges as a result of two separate failures of the cooling system at the bore pit located west of Interstate-15. During the first occurrence approximately 700 to 800 gallons of the water/liquid from the leak flowed out of the work area. During the second occurrence approximately 12,000 gallons of liquid was pumped and discharged to the upland area. In both cases BMPs were used prior to the liquid leaving the work area. The liquid did not reach any storm drain inlet or drainage channel.	SDG&E

APPENDIX D
INCIDENTS AND OCCURRENCES

Table D-2 List of Other Occurrences

#	Date	Applicable Measure	Description
1	04/19/17	Health and Safety: Traffic Incident	Delivery truck driver struck a vehicle outside the Driving Range Yard while backing a truck with a trailer out of the Yard.
2	05/03/17	Health and Safety: Traffic Incident	Delivery truck entering 7-Up facility on Trade Street struck bollards protecting SDG&E electrical transformer.
3	05/18/17	Health and Safety: Traffic Incident	Civilian ignored traffic control flagger's instruction to stop and drove pickup into the open trench on Trade Street.
4	05/23/17	MM Hydro-1: SWPPP and Treatment of Shallow Groundwater Discharge	Construction crews cracked a 2-inch potable water line with a rock while street sweeping, releasing approximately 15,000-20,000 gallons of water into an adjacent storm drain inlet on Trade Street.
5	06/04/17	MM Hydro-1: SWPPP and Treatment of Shallow Groundwater Discharge	A 12-inch recycled water line became disconnected at a joint in the pipe when soil fell from underneath the line during excavation of the vault on Carroll Canyon Road. The water was contained within the vault and no recycled water was discharged to the storm drain system. The water was pumped into the City sanitary sewer system.
6	06/29/17	MM Utilities-1: Non-Potable Water Use for Dust Control	5-gallon backpack pumps and other equipment used to hold water for fire suppression were filled with potable water instead of non-potable water as required.
7	07/06/17	Health and Safety: Traffic Incident	Three motorcyclists ignored traffic control flaggers, entered a closed traffic control area adjacent to an open trench on Carroll Canyon Road and rode down the sidewalk striking an employee.
8	07/20/17	Health and Safety: Traffic Incident	A traffic control flagger was struck by a vehicle driven by a member of the public on Miralani Drive.
9	08/03/17	Health and Safety: Traffic Incident	One vehicle suddenly stopped on Pomerado Road, causing a chain reaction collision involving five vehicles. No injuries were reported.
10	08/10/17	MM Hydro-1: SWPPP and Treatment of Shallow Groundwater Discharge	Construction crews struck and broke an unmarked 1-inch potable water line with an excavator, releasing approximately 10,000 gallons of water into an adjacent storm drain inlet.
11	08/24/17	Health and Safety: Electrical Fire	A dump truck delivering asphalt experienced an electrical fire. The driver was quickly made aware of the incident and the fire was put out using a 20-pound fire extinguisher.
12	09/05/17	MM Hydro-1: Temporary BMPs	Construction crews uncovered a 12-inch potable water line with an excavator that then separated at the joint, releasing approximately 30,000 gallons of water into an adjacent storm drain inlet on Carroll Canyon Road.

APPENDIX D
INCIDENTS AND OCCURRENCES

#	Date	Applicable Measure	Description
13	09/14/17	Health and Safety: Spot Fire	Spot fire on Pomerado Road caused by grinding activity spark which blew below fire blanket.
14	12/16/17	MM Hydro-1: SWPPP and Treatment of Shallow Groundwater Discharge	Construction crews struck an unmarked 6-inch potable water line near the intersection of Pomerado Road and Spring Canyon Road releasing approximately 55,000 gallons of water into an adjacent storm drain inlet.
15	03/01/18	Health and Safety: Traffic Incident	A traffic accident involving four vehicles occurred in the eastbound lanes of Miramar Road. All vehicles were operated by members of the public. There were no reported injuries.
16	03/08/18	Health and Safety: Fire	A construction contractor experienced a small fire involving a portable generator. The generator was new and had a sticker affixed that was not removed from the exhaust system prior to operation, causing the fire. The fire was immediately extinguished.