

### 3 COMMENTS AND RESPONSES

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#### 3.1 GENERAL RESPONSES TO COMMENTS

This section presents General Responses on topics where similar or the same comments were made by multiple commenters. General Responses address the following topics:

- GR-1: CPUC Decision-Making Process
- GR-2: Marker Balls and FAA Regulations
- GR-3: Aesthetic Impacts of Transmission Lines
- GR-4: Health Effects of Transmission Lines and Electromagnetic Fields
- GR-5: Corona Noise Impacts
- GR-6: Support for Alternative 5
- GR-7: Alternative 3 Impacts and Ranking
- GR-8: Transmission Line Effects on Property Values
- GR-9: Impacts on Schools
- GR-10: Fire Risk
- GR-11: Modification to Alternative 4: Suggestions to Locate the 69-kV Power Lines and/or the Proposed Project 230-kV Transmission Line Underground along the Alternative 4 Route
- GR-12 Impacts on Emergency Evacuation Routes
- GR-13: Traffic Impacts
- GR-14: De-Energized Poles and Lines in Alternative 4
- GR-15: Access Roads

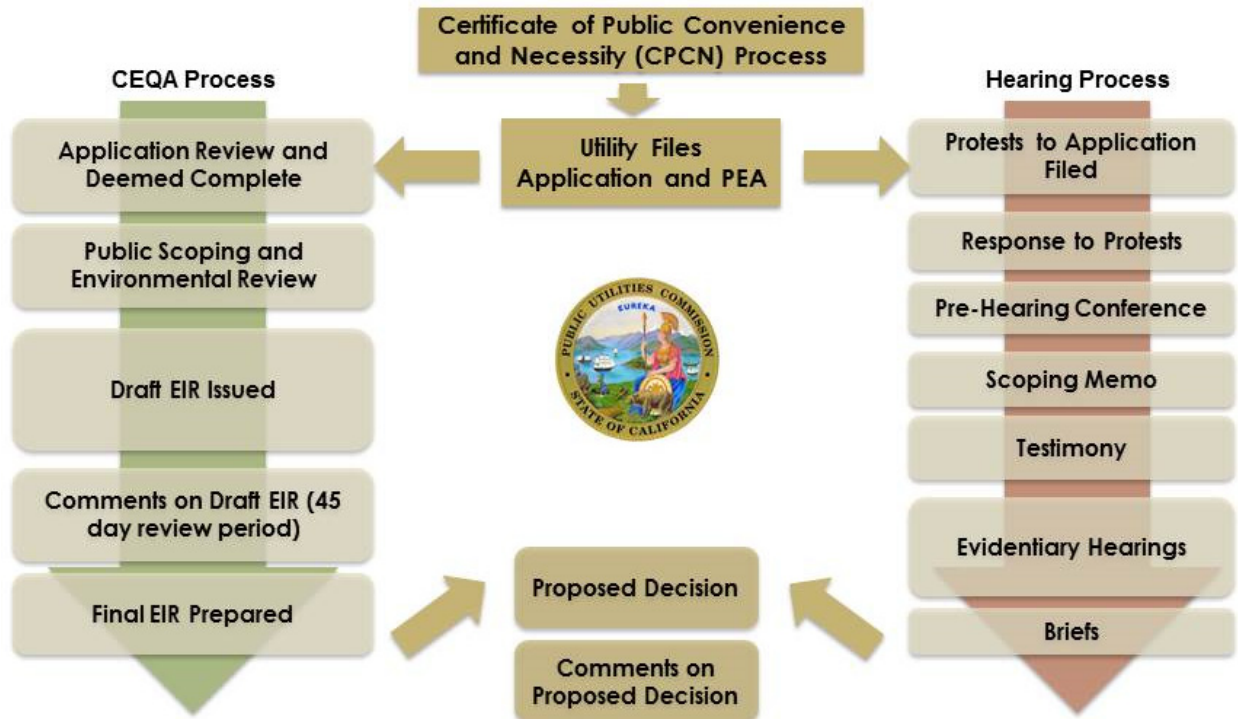
#### GR-1 CPUC Decision-Making Process

Numerous comments included questions regarding the approval or denial of the Proposed Project or an alternative and what factors would be considered by the CPUC during the decision-making process. This response discusses the CPUC's CEQA environmental review process, the CPUC general proceeding, how the CPUC considers project cost, and the need for the Proposed Project. Chapter 1: Introduction of the Draft EIR addresses the CPUC and participating agency use of the EIR.

Figure 3.1-1 below provides an overview of the steps in the CEQA environmental review process and the CPUC General Proceeding. The CPUC considers the information produced through the environmental review and general proceeding during the decision-making process.

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Figure 3.1-1 Environmental Review and General Proceeding Processes



#### CEQA Environmental Review

SDG&E filed an application for a Certificate of Public Convenience and Necessity (CPCN) to construct the Proposed Project on April 7, 2014. The CPUC, as the lead agency under CEQA, determined that an EIR was required for environmental review of the Proposed Project under CEQA. The environmental review process included the following steps consistent with CEQA requirements:

- The CPUC reviewed the CPCN application and deemed the application completed on July 24, 2014.
- The CPUC prepared a Notice of Preparation (NOP) for the Proposed Project and mailed scoping notices to agencies and organizations with an interest in the Proposed Project and all property owners within 1,000 feet of the Proposed Project.
- The scoping period was 30 days between August 18 and September 16, 2014.
- The CPUC held three scoping meetings in the project area over two days on August 25 and 26, 2014.
- The CPUC prepared a Draft EIR that included an environmental impact analysis for the Proposed Project and five alternatives to the Proposed Project.
- The CPUC defined the environmentally superior alternative in the Draft EIR
- The Draft EIR was made available for public comment for a 45-day public review period between September 17 and November 2, 2015.
- The CPUC granted six parties an extension of the comment period until November 16, 2015, upon request.

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- The CPUC held three public workshops in the project area during the public review period on September 28 and 29, 2015.
- This Final EIR contains all revisions made to the Draft EIR, all comments and recommendations received on the Draft EIR, a list of persons, organizations, and public agencies that commented on the Draft EIR, and the responses of the CPUC to significant environmental points raised in the public comment process.

The CPUC must consider the environmental evaluation of the Proposed Project in their decision-making process and must certify the EIR prior to approving the Proposed Project or an alternative. The environmental evaluation includes the Draft EIR and this Final EIR for the Proposed Project. Pursuant to CEQA Guidelines Section 15126.6(e)(2), the CPUC identified Alternative 5 as the Environmentally Superior Alternative in the Draft EIR; Alternative 5 is still ranked as the Environmentally Superior Alternative in this Final EIR. This ranking is based on the environmental impacts of the Proposed Project and alternatives consistent with CEQA requirements.

The Final EIR is an informational document. It does not make a recommendation regarding approval or denial of the CPCN application, and it does not establish a route for the project. The purpose of the Final EIR is to:

- Inform both the public and the decision-makers of the environmental impacts of the Proposed Project and alternatives;
- Design a recommended mitigation program to reduce or avoid significant impacts; and
- Identify, from an environmental perspective, a preferred route.

In making a final determination on the application, the Commission will consider the information contained in the Final EIR as well as in the formal evidentiary record. The analysis in this EIR does not evaluate impacts on property values, rate payers, or other aspects unrelated to the environment. The consideration of other factors in the CPUC general proceeding is discussed below.

#### **CPUC General Proceeding**

The CPUC general proceeding is a formal review process in which the CPUC considers how approval of a project might impact public interests. The general proceeding includes, as stated in Public Utilities Code § 1002.3, the consideration of “cost-effective alternatives to transmission facilities that meet the need for an efficient, reliable, and affordable supply of electricity.” A general proceeding can include pre-hearing conferences, evidentiary hearings, and public participation hearings. The CPUC will seek a decision on the project that strikes a balance among power production, land use, environmental stewardship, and other factors. A CPUC Assigned Commissioner and an Administrative Law Judge (ALJ) are in charge of the general proceeding, which may occur in part while the environmental review is underway.

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#### **Pre-hearing Conferences**

The pre-hearing conference is the first open forum in the general proceeding. Its purpose is to determine the potentially affected parties, specific project issues, and to develop a preliminary filing and hearing schedule. After the conference, the ALJ issues a scoping memo that lists the issues raised during the pre-hearing conference and a schedule for addressing these issues in the general proceeding. A pre-hearing conference was held for the Proposed Project on August 7, 2014. The ALJ may hold another pre-hearing conference in the future, if appropriate.

#### **Evidentiary Hearings**

The evidentiary hearings, similar to formal courtroom proceedings, offer stakeholders and qualified experts the opportunity to present their opinions on various aspects of the Proposed Project, including need and cost-benefit of the project. After giving expert testimony, the witnesses are offered for cross-examination by other participants in the proceeding. The purpose of the evidentiary hearings is to gather evidence so that the ALJ and the CPUC Assigned Commissioner fully understand the issues of the case. The ALJ determines the range of topics covered in the evidentiary hearings, which are project specific. Topics considered in evidentiary hearings may generally include:

- Economic and reliability need for the Proposed Project
- Assumptions underlying SDG&E and California Independent System Operator (CAISO) cost-benefit analyses
- Alternatives to the Proposed Project
- Feasibility and impacts of pursuing the No Project Alternative
- Community values
- Recreational areas
- Historical and aesthetic values

Phase I of the evidentiary hearings were held on February 18 and 19, 2015 and focused on the following topics:

- Public convenience and necessity for the proposed project
- Cost of the proposed project
- Project design compliance with safe and reliable operations

The Phase II evidentiary hearings have yet to be scheduled.

#### **Public Participation Hearings**

The CPUC Assigned Commissioner and the ALJ may hold public participation hearings if there is sufficient public interest. During the hearings, the general public may provide perspectives on the Proposed Project or alternatives including, but not limited to, concerns raised in comment letters on the Draft EIR such as impacts on community welfare, property values, economy of the affected communities, and rate payers. Each participant is given an opportunity to speak, though each individual's time may be limited to ensure that all attendees are given a chance to voice their opinions and concerns.

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#### **Need for the Project**

SDG&E explains in their CPCN application and PEA that the Proposed Project is needed to meet state environmental and energy policy goals, and to ensure the bulk power system is in compliance with applicable North American Electric Reliability Corporation (NERC), Western Electric Coordinating Council (WECC) and CAISO transmission planning criteria (SDG&E 2014).

Need for the Proposed Project is discussed in Sections 1.1.3 and 1.1.4 of Chapter 1: Introduction of the Draft EIR. The need for the project, however, is not evaluated in the EIR and is not determined within the context of the environmental review process. The CPUC ALJ evaluates project need during the CPUC general proceeding with information presented by SDG&E, CAISO, and other parties. CPUC General Order 131-D contains rules relating to the planning and construction of electric facilities. It prescribes that, prior to issuing a CPCN, the CPUC must find that the project is necessary to promote the safety, health, comfort, and convenience of the public.

#### **Cost of the Project**

The cost of the Proposed Project or an alternative is not evaluated or decided within the EIR. CEQA does not require consideration of economic effects unless they would result in physical changes to the environment (CEQA Guidelines Section 15131). The CPUC ALJ evaluates the cost of the project during the CPUC general proceeding with information presented by SDG&E, CAISO, and other parties, as described above. Project cost was discussed during Phase I of the evidentiary hearings and may also be discussed during the Phase II hearings. Evidentiary hearing testimony can be found on the CPUC proceeding website:

[http://delaps1.cpuc.ca.gov/CPUCProceedingLookup/f?p=401:56:10826448418837::NO:RP,57,RIR:P5\\_PROCEEDING\\_SELECT:A1404011](http://delaps1.cpuc.ca.gov/CPUCProceedingLookup/f?p=401:56:10826448418837::NO:RP,57,RIR:P5_PROCEEDING_SELECT:A1404011)

#### **CPUC Decision Process**

The ALJ will prepare a Proposed Decision for consideration by the CPUC Commissioners after both the environmental evaluation and CPUC general proceeding are complete. The ALJ bases the Proposed Decision on the evidence presented at the general proceeding, the analysis and conclusions made in the Final EIR, and the public comments received. The Proposed Project, No Project Alternative, project alternatives, and combinations of alternatives will be considered for adoption during the CPUC decision-making process. After the Proposed Decision has been issued, each Commissioner may draft an Alternate Decision presenting differing conclusions or opinions.

Before approving the Proposed Project or an alternative, the CPUC will certify that the Final EIR:

- Has been completed in compliance with CEQA,
- Was presented to its decision-making body and the decision-making body reviewed and considered the information contained in the Final EIR, and
- Reflects the independent judgment of the CPUC in compliance with CEQA Guidelines Section 15090.

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All five CPUC Commissioners will then vote on the Proposed Decision and any Alternate Decisions at a meeting of the full Commission. If the CPUC approves the Proposed Project or an alternative that will have a significant effect on the environment, the CPUC will make one or more of the findings required by CEQA Guidelines Section 15091 for each significant environmental effect identified in the Final EIR. In compliance with CEQA Guidelines Section 15093, if the Proposed Project or alternative to be adopted would result in a significant unavoidable effect or effects, the CPUC will also adopt a statement of overriding considerations to explain why specific economic, legal, social, technological or other benefits of the proposal outweigh the effect(s), citing specific evidence in the Final EIR and/or elsewhere in the record. If the Proposed Project or an alternative is approved, the CPUC will adopt a mitigation monitoring and reporting program (MMRP) to ensure that the mitigation measures identified in the EIR are implemented.

The CPUC's approval of the Proposed Project or an alternative may be appealed internally at the CPUC through the following process:

- Within 30 days of the approval of the Proposed Project or an alternative, an application for rehearing may be filed with the CPUC (Public Utilities Code § 1731(d)). The purpose of the rehearing application is to alert the CPUC to a legal error so that the CPUC may correct it.
- Within 20 days from the filing of the application for rehearing, the CPUC shall issue its decision and order on the rehearing (Public Utilities Code § 1731(c)).

Pursuant to PRC § 21168.6, any judicial action challenging a CPUC CEQA decision must be filed with the Supreme Court of California. Filing and processing of judicial review is governed by Public Utilities Code § 1756 – 1768.

#### **Public Participation in the CPUC General Proceeding**

There are several ways the public can participate in the CPUC general proceeding. Members of the public may file formal complaints or become a party to the proceeding. A person seeking party status must:

- Fully disclose the persons or entities in whose behalf the filing, appearance, or motion is made, and fully disclose the interest of such persons or entities in the proceeding, and
- Show that the contentions will be pertinent to the proceeding issues.

The ALJ may determine whether or not to grant party status based on the information provided. If party status is not granted, the ALJ may limit participation or place the person on the Information-Only portion of the service list, and they will receive all documents included in the project proceeding via email.

Public participation is also possible at a public participation hearing (see above).

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The CPUC prepared a guidance document entitled “Guide to Public Participation” to inform the public how they may be involved in the CPUC general proceeding (CPUC 2010). The document can be found at the following website:

<http://www.cpuc.ca.gov/NR/rdonlyres/B1C2F5B2-8A22-492B-B695-8751AE7FBA76/0/GuidePblcPrtcptnApr10.pdf>

The guide includes information on how to become a party to a proceeding as well as the responsibilities of being a party.

The CPUC Rules of Practice and Procedure define the rules and code of conduct for the CPUC General Proceeding. The CPUC Rules of Practice and Procedure can be found on the CPUC’s website:

<http://www.cpuc.ca.gov/PUC/documents/codelawspolicies.htm>

The Public Advisor’s Office is also available to answer questions regarding the proceeding process. The Public Advisor’s Office may be contacted via the following contact information:

Telephone: (866) 849-8390 or (415) 703-2074

Email: [public.advisor@cpuc.ca.gov](mailto:public.advisor@cpuc.ca.gov)

Mailing address: CPUC Public Advisor  
505 Van Ness Avenue, Room 2103  
San Francisco, CA 94102

#### **Other Project Approvals**

Table 1.3-1 of the Draft EIR lists permits and approvals that may be required for the Proposed Project. Several other State agencies may rely on the information in this Final EIR to inform their decisions over issuance of specific permits related to project construction, operation, and maintenance. The California Department of Fish and Wildlife (CDFW) is a State Trustee Agency. The California Department of Transportation (Caltrans), California Coastal Commission (CCC), and the San Diego Regional Water Quality Control Board (SDRWQCB) are State Responsible Agencies because they would issue discretionary permits for the project. Other agencies may impose additional conditions or requirements on SDG&E as part of their separate permit review and approval processes.

#### **GR-2 Marker Balls and FAA Regulations**

Several commenters were concerned with the use of marker balls and expressed concern that marker balls were being used unnecessarily. This general response discusses the need for marker balls and the process that will be used to define the locations of marker balls prior to construction.

#### **Purpose of Marker Balls**

Marker balls are installed as a safety measure for marking obstructions that have been deemed to be a hazard to navigable airspace. Specifically, they make certain structures conspicuous to pilots during daytime and nighttime hours to prevent crashes.

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#### Federal Aviation Administration Regulations and Guidance Concerning the Use of Marker Balls

##### FAA Regulations

FAA regulation § 77.9 requires FAA notification of potential hazards to air navigation, including proposed structures and conductor spans taller than 200 feet or within 20,000 feet of an airport runway. Once the FAA receives notification of these proposed structures through a Form 7460-1: Notice of Proposed Construction or Alteration, it conducts an aeronautical study and makes a determination and recommendations on whether the proposed structures would: (a) not be a hazard without marking and/or lighting, (b) would not be a hazard with marking and/or lighting, or (c) would be a hazard to air navigation. The FAA does not provide preliminary project determinations prior to receiving Form 7460-1 (Pendzick and Sapp 2014). The use and placement of marker balls is regulated by the FAA, not by SDG&E or the CPUC.

##### FAA Guidance

The FAA issues standards for marking and lighting structures to promote aviation safety, including transmission and power lines. These standards do not constitute regulations and are not mandatory. When the Draft EIR was published in September 2015, the current FAA standards were provided in FAA Advisory Circular 70/7460-1 K. On December 4, 2015, the FAA cancelled Advisory Circular 70/7460-1 K and replaced it with FAA Advisory Circular 70/7460-1L, Obstruction Marking and Lighting. The FAA may determine on a case-by-case basis that the guidelines and standards are mandatory and should be followed (FAA 2015).

“Recommendations on marking and/or lighting structures can vary depending on terrain features, weather patterns, geographic location” as well as structure height and proximity to airports (*Ibid.*); the proximity of MCAS Miramar to the Proposed Project area would be of particular concern for this project.

Specifics regarding the required color, spacing, and pattern of marker balls that would be placed on overhead wires are found in the FAA Advisory Circular. The FAA recommends the use of either 20-inch or 36-inch diameter marker balls placed on the tallest energized line depending on the location (i.e., larger diameter for canyon or river crossings). Marker balls should be equally spaced along the conductor at approximately 200-foot intervals or less. If a span requires three or fewer marker balls, all marker balls on the span should be aviation orange. If a span requires four or more marker balls, they should be placed in an alternating color scheme of aviation orange, white, and yellow.

##### *Revisions to the FAA Advisory Circular*

FAA Advisory Circular 70/7460-1L updates and replaces FAA Advisory Circular 70/7460-1K (FAA 2007). All references to the FAA advisory circular regarding marking and lighting of transmission lines in the Draft EIR are revised as follows:

FAA Advisory Circular 70/7460-1~~K~~L

Both advisory circulars provide general guidance for marking and lighting of transmission structures and lines, but do not specify requirements that apply to all situations.



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There was one notable change between the previous Advisory Circular and the new Advisory Circular as it relates to the Proposed Project. Advisory Circular 70/7460-1K did not distinguish between lighted and unlighted spherical markers (i.e., marker balls) used to identify transmission lines based on the voltage of the transmission line; the new Advisory Circular 70/7460-1L makes this distinction. Specifically, the FAA recommends that while low-voltage lines (less than 69-kV) should not be marked with lighted marker balls, high-voltage transmission lines (69-kV or greater) should be marked with lighted marker balls to provide sufficient visibility in both day and nighttime conditions. Both FAA Advisory Circulars 70/7460-1K and 70/7460-1L recommended use of lighted marker balls on transmission lines near airports, heliports, across rivers, canyons, lakes, or other areas of known risk to aviation. Where lighted marker balls are used, they should emit a steady-burning red light and should be recognizable from a minimum distance of 4,000 feet (1,219 meters) under nighttime conditions, minimum Visual Flight Rules conditions, or have a minimum intensity of at least 32.5 candelas.

#### *Impact of New FAA Guidance on the Proposed Project*

The Draft EIR analyzed the use of non-lighted marker balls on all spans where marker balls may be required per FAA guidance and standards. Lighted marker balls were not considered in the Draft EIR because there are no lighted marker balls in existence today within the SDG&E electrical transmission system and none were proposed for this project. While the revised FAA Advisory Circular clarifies the situations where lighted and unlighted marker balls should be used, the Advisory Circular is not a regulation or law and does not dictate their use.

The CPUC conducted an inquiry with the FAA regarding the changes in the Advisory Circular and whether the FAA would require the use of lighting on marker balls for transmission lines rated 69-kV and above. Records of correspondence with the FAA are provided in Attachment 2: Agency Correspondences. The FAA indicated that the requirement to light catenaries (i.e., conductors) 69-kV and above has always existed and is simply “detailed in the new Marking and Lighting advisory due to the number of questions [FAA has] received from transmission line proponents” (van Haastert 2016). While it is possible to identify which catenaries would trigger FAA notification under Title 14 CFR Part 77, the FAA will not determine whether lighting is required on specific spans until SDG&E submits Form 7460-1 following the completion of detailed design engineering after the CPUC’s approval of either the Proposed Project or an alternative, as described in the Draft EIR.

The impacts of lighted marker balls are not analyzed in the Final EIR. The use of lighted marker balls is considered too speculative to warrant analysis for the following reasons:

- Lighted marker balls are not currently used in SDG&E’s electrical system territory even though, according to the FAA, the requirement for marker lighting existed under the previous Advisory Circular.
- An FAA determination cannot be made at this time because it is dependent on the completion of detailed design engineering following the CPUC’s approval of either the Proposed Project or an alternative, as described in the Draft EIR. The FAA does

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not provide preliminary determinations prior to receiving Form 7460-1 (Pendzick and Sapp 2014).

- Based on the FAA Advisory Circular, the most conservative scenario would be that all locations where marker balls are proposed in the project would also need to have lights; however, such lighting does not currently exist anywhere else in SDG&E's system even though the previous FAA Advisory Circular contained a similar requirement for lighting of catenaries (van Haastert 2016).
- Even if CPUC assumed that all proposed catenaries that trigger FAA notification require lighted marker balls, the specifics of what these lighted markers would look like is unclear since there are no nearby examples from which the CPUC could extrapolate an end result.
- SDG&E can request an exception to any FAA determination. This process is defined in the Advisory Circular. This process could result in a hybrid or reversal of the determination initially made by the FAA, the results of which (should SDG&E pursue such action) cannot be known at this time.

CEQA permits the CPUC to decide that impacts from lighted marker balls are too speculative for analysis. Specifically, “[i]f, after thorough investigation, the lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact” (CEQA Guidelines Section 15145).

A determination of the need for and requirement of either lighted or unlighted marker balls will be made by the FAA when SDG&E submits Form 7460-1 prior to construction and following the CPUC's decision to approve either the Proposed Project or an alternative. Should the FAA require the use of lighted marker balls in the Project area in the future, SDG&E would need to file a Petition for Modification for the project to use lighted markers on the transmission line. At such time, the CPUC would evaluate the use of lighted markers and prepare the appropriate environmental documentation consistent with CEQA for the project revision.

#### **Process to Determine Marker Ball Locations**

##### **Preliminary Marker Ball Locations in Draft EIR**

The marker ball locations provided in the Draft EIR and shown in the visual simulations in Section 4.1: Aesthetics were derived from span and structure heights calculated during preliminary engineering of the Proposed Project and alternatives. It was assumed that all spans that would trigger FAA notification could require marker balls. The location of marker balls was also determined based on the presence of marker balls on existing facilities adjacent to the Proposed Project alignment. Specific marker ball locations were based on preliminary engineering and are therefore not finalized.

Because the Proposed Project and all alternatives or combination of alternatives would include overhead facilities, it is likely that marker balls would be required in one or more spans if the Proposed Project, alternative, or combination of alternatives were approved by the CPUC. Table 4.2-7 of the Draft EIR has been revised for consistency with SDG&E's preliminary marker ball locations discussed in Section 2.3.5.5 of Chapter 2: Project Description and the spans

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showing marker balls in Appendix A: Detailed Project Route Maps in the Draft EIR. Revisions to Table 4.2-7 do not affect the impact analysis and significance conclusions made in the Draft EIR. The visual simulations informed the impact analysis and significance conclusions drawn in the EIR, and the visual simulations presented in the Draft EIR represented the correct number and locations of spans that may require marker balls. The CPUC determined in the Draft EIR that marker balls contribute to a significant and unavoidable impact on visual quality.

As noted in the revised Table 4.2-7 of the Draft EIR, the Proposed Project could require marker balls on up to 15 spans based on preliminary engineering. Alternatives 1 and 2 would have the same requirements. Alternative 3 would avoid marker balls along five spans because underground construction would avoid overhead transmission lines along Proposed Project Segment A north of Ivy Hill Drive and along Segment C. Alternative 4 would likely have the same requirements as the Proposed Project; although substantially fewer new structures would

**Table 4.2-7 Summary of the Visible Features of the Proposed Project by Transmission Line Segment**

Transmission Line Segment	Segment Length (Miles)	KOPs in Segment	Proposed Project Features
A	8.3	KOP 1, 2, 3, 4, 5, 6, and 7	<ul style="list-style-type: none"> <li>• Thirty-seven new 230-kV TSPs</li> <li>• Two new 138-kV TSPs</li> <li>• Removal of existing wooden H-frame structures</li> <li>• One new 138-kV H-frame structure</li> <li>• Six new 230-kV conductors</li> <li>• Ground clearing around each new pole</li> <li>• Four retaining walls</li> <li>• Marker balls on up to <del>eight</del> <u>nine</u> spans</li> </ul>
B	2.8	KOP 8	<ul style="list-style-type: none"> <li>• Two new 230-kV cable poles</li> <li>• Underground transmission line through Carmel Valley Road (not visible)</li> </ul>
C	2.2	KOP 9 and 10	<ul style="list-style-type: none"> <li>• One new TSP</li> <li>• Removal of one steel lattice tower</li> <li>• Six new conductors</li> <li>• Bundling of existing conductors</li> <li>• <del>One span may require marker balls</del> <u>Marker balls on up to two spans</u></li> </ul>
D	3.3	KOPs 11, 12, 13, 14, and 15	<ul style="list-style-type: none"> <li>• 17 new 69-kV TSPs</li> <li>• Replace two wood cable poles with steel cable poles</li> <li>• Removal of existing wood H-frames</li> <li>• Six new 230-kV conductors</li> <li>• Ground clearing around each new pole</li> <li>• Four retaining walls</li> <li>• Marker balls on up to <del>three</del> <u>four</u> spans</li> </ul>

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Be erected within Proposed Project Segment D, the FAA may require marker balls on the new conductors installed on existing structures. Alternative 5 would require marker balls along three spans, including two spans close to MCAS Miramar along Proposed Project Segment A and one span crossing the I-15 highway; marker balls may also be required on one or more spans of the western overhead transmission line section of Alternative 5.

#### **Marker Ball Location Revisions after Publication of the Draft EIR**

In February 2016, SDG&E conducted an updated detailed review of the current design of the Proposed Project and Alternatives 3, 4, and 5 to identify catenary spans that may be subject to notice to the FAA pursuant to 14 CFR, Part 77. This review was based on the best available topographic data (such as recent LiDAR where available) and considered the maximum catenary height above ground for each span. The information provided by SDG&E in response to CPUC Data Request #20 provides details for each span determined to have the potential for hazard marking under 14 CFR, Part 77 (SDG&E 2016a). Based upon the updated review of catenary spans, SDG&E found that two new spans may be considered for aerial marking, and three spans previously assumed to be subject to aerial marking may not ultimately trigger noticing with the FAA. The two new spans that may require aerial marking include the span between structures P9 and P10 and the span between structures P35 and P36. The potential addition of marker balls to these spans does not affect the analysis of visual impacts included in the Draft EIR.

The Draft EIR provides visual simulations from representative view points along the Proposed Project alignment. It would be both unreasonable and of little practical value to analyze every possible view point along the Proposed Project alignment, including every view of possible marker ball locations; therefore, the Draft EIR used representative KOPs to analyze impacts on visual quality. The nearest KOP to structures P9 and P10 is KOP #2. The visual simulation for KOP #2 includes marker balls and accurately represents views of the marker balls on the span between structures P9 and P10. The nearest KOP to structures P35 and P36 is KOP #6. The visual simulation for KOP #6 includes marker balls and accurately represents views of the marker balls on the span between structures P35 and P36. Because marker ball impacts were fully considered in the Draft EIR and the number of spans expected to require marker balls has reduced from the number considered in the Draft EIR, no changes are required in the EIR.

#### **Marker Ball Locations Defined by FAA**

As noted in Table 1.3-1 of the Draft EIR, SDG&E is required to seek approval from the FAA and MCAS Miramar regarding the placement of marker balls on overhead transmission facilities. SDG&E will submit FAA notification Form 7460-1 for all necessary structures and conductor spans after final engineering is complete. The locations and details for marker balls will be determined with consideration of FAA recommendations in Advisory Circular 70/7460-1L. Marker balls in spans that do not exceed 200 feet but cross major roadways, or are designed in parallel with existing transmission lines that are currently marked, will be evaluated for voluntary marking depending on the conditions. SDG&E will additionally consult with MCAS Miramar on marking and lighting proposed structures and spans that are on or near the base.

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#### **Design Options to Reduce or Avoid Marker Balls**

CPUC General Order 95 specifies vertical and horizontal clearance (i.e., spacing between two objects) requirements for power and transmission lines. Vertical and horizontal clearances are required to prevent arcing between conductors and other objects for safety purposes. Clearance requirements include restrictions on the proximity of power and transmission lines to the ground, nearby signs, buildings with roof access, other conductors, and a myriad of other objects. The location of the Proposed Project, FAA requirements for marking and lighting to protect aviation safety, and the design constraints that SDG&E must follow pursuant to CPUC General Order 95 all factor into the requirements for marker balls in the Proposed Project. Alternatives analyzed in the Draft EIR would reduce the number of marker balls installed along the transmission line route by avoiding the construction of overhead transmission lines and associated marker balls, as discussed above.

#### **GR-3 Aesthetic Impacts of Transmission Lines**

Comments regarding the aesthetic impacts of the Proposed Project and alternatives included the following:

- Concerns about impacts on views from residential areas along the transmission line alignment
- Specific comments about the visual impacts of transmission line marker balls
- Concerns about impacts on views from recreational areas
- Comments from SDG&E regarding the accuracy of the visual simulations

#### **Aesthetic Impact Methodology**

Aesthetic impacts of the Proposed Project are addressed in Section 4.2: Aesthetics of the Draft EIR. A quantitative visual impact assessment, provided in Appendix F: Aesthetic Resources Support Information of the Draft EIR, was performed to evaluate the degree of visual impact that the Proposed Project would have at various Key Observation Points (KOPs) in the Proposed Project area. An initial list of 60 candidate KOPs (cKOPs) was compiled, and a sensitivity matrix was used to quantitatively evaluate the cKOPs to identify which views would be most impacted by the Proposed Project. The evaluation process is detailed in Appendix F of the Draft EIR. After the evaluation of cKOPs, 15 KOPs were selected and simulations were prepared for each selected KOP that depicted build-out of the Proposed Project to show what a viewer could potentially see at each location. The visual simulations were rendered using the best available information provided by SDG&E and transmission line assumptions known at the time of Draft EIR preparation. Rating sheets were used to assess the visual change to the existing visual quality for each KOP during project operation prior to implementation of applicant proposed measures (APMs) and mitigation measures. Significance conclusions regarding the degree of visual impact were based on the change in vividness, intactness, and unity resulting from implementation of the Proposed Project. Viewer sensitivity to visual change and viewer exposure were also considered in the numeric evaluation. A moderately high or high impact rating was considered to be a significant impact. KOPs that resulted in significant visual impacts were further rated for visual impact after implementation of APMs

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and mitigation measures, to determine whether impacts had been reduced to less than significant.

#### **Summary of Aesthetic Impacts**

The Proposed Project would have a significant and unavoidable impact on views from six KOPs (KOPs #6, #7, #8, #11, #14, and #15). Impacts would be less than significant with mitigation at three KOPs (KOPs #1, #3, and #13) and less than significant at six KOPs (KOPs #2, #4, #5, #9, #10, and #12). Refer to Draft EIR Section 4.2: Aesthetics, for further details on the aesthetic impacts at each KOP.

Mitigation Measures Aesthetics-1 through Aesthetics-5 would reduce significant visual impact by requiring SDG&E to replace landscape trees, screen retaining walls, prepare a Facilities Color Treatment Plan, screen cable poles, and direct nighttime lighting away from surrounding properties and natural habitats. The visual impact would remain moderately high or high, i.e., significant, at six KOPs in Segments A and D after implementation of all feasible mitigation measures. Significant and unavoidable impacts on visual quality at these KOPs would result from the proposed retaining walls, cable poles, transmission poles and conductors, and anticipated marker ball locations (see General Response GR-2 above) which differ in form, line, and color from the existing electrical facilities and visual character of the area.

#### **Private Views**

Consistent with CEQA, the Draft EIR included KOPs that represent public views from publically accessible locations; however, these locations are also representative of views from adjacent residential areas. KOPs #1 through #7 provide representative views for residential communities adjacent to Segment A of the Proposed Project. KOPs #9 and #10 provide representative views of the Proposed Project transmission line from the neighboring residential communities along Segment C. KOPs #12 through #15 provide representative views for residential communities adjacent to Segment D of the Proposed Project.

#### **Visual Impact of Marker Balls**

Concerns raised during the comment period about the visual impact of marker balls include complaints that they would be visually intrusive and/or obstruct views of natural open space. As discussed in the Draft EIR and in General Response GR-2 above, marker balls would be required by the FAA on transmission spans in Proposed Project Segments A, C, and D. The degree of visual impact resulting from marker balls was based on viewer sensitivity, viewer exposure, and the relative change in visual quality. Viewer sensitivity to marker balls would generally be high because of their high visibility. The degree of visual impact at each marker ball location would range from high to moderate or low depending on the viewer distance and viewer exposure (i.e., number of viewers and duration of views) to the marker balls. Generally, marker balls in the foreground (0 to 0.5 mile from the viewer) at locations with a moderate or high number of viewers and moderate to high viewer exposure would have a significant and unavoidable visual impact. Distance substantially lessens the effect of marker balls on visual quality; marker balls are less visually prominent when viewed at a distance of 0.5 miles or

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more. The visual impact of marker balls when viewed from 0.5 mile or more would be less than significant.

#### **Intended Use of Photo-Simulations**

Photo-simulations are used to assess the landscape changes of project components at the scale the casual observer would see from a KOP. Photo-simulations are artistic representations of the Proposed Project's appearance from a particular KOP. The simulations in the Draft EIR are intended to graphically represent project features and support an assessment of visual change. The Proposed Project features and elements resulting from final engineering design may differ slightly from those shown in the simulation but are not anticipated to affect the overall visual character.

Federal and state agency standards and protocols were used to create the simulations as described in Section 4.2.2 of the Draft EIR. The simulations in the Draft EIR are intended to assist viewers and practitioners in assessing the actual visual change created by the Proposed Project that would be visible from the KOP, a distance intended to approximate what the typical individual would see relative to the baseline visual conditions, not through binoculars or by "zooming in". What may be able to be scrutinized on a micro-level desktop review or by enlarging a photograph is not an accurate representation of real-world visual change or visual impact analysis as seen with the naked eye. With increasing distance the project features become less discernable when viewed with the naked eye. For example, conductors are catenary forms that are very evident in the foreground perspective; as they transition to the distant foreground and middleground perspectives the naked eye's perception of conductors is influenced by (a) distance, (b) visual acuity, (c) lighting conditions, and (d) atmospheric visibility. This concept is called a vanishing point. A more mainstream analogy would be standing on an infinitely flat railroad track and seeing the rails converge until they were a single line, again by the unaided eye. Conductors vanish in a similar way but much more quickly because of their size. In summary, many of the comments on the simulations provided in the Draft EIR are requesting detail beyond what could be discerned in the real world with the naked eye, and therefore beyond what is required by a CEQA visual impact analysis.

#### **Modifications to Simulations**

SDG&E requested revisions to the visual simulations in the Draft EIR. The visual simulations and requested revisions were analyzed for technical accuracy and relevancy to the viewer. The simulation at KOPs #2 through #4, #6, #9 through #12, #14, and #15 have not been revised in the Draft EIR because: (a) the simulations are an artistic depiction of the visual changes that would occur as a result of the Proposed Project, (b) the visual simulation presented in the Draft EIR accurately represents the degree of visual change at the scale shown at the KOPs, and (c) the requested modifications would not change the visual impact conclusions in the Draft EIR.

Simulations for KOPs #1, #5, #7, #8, and #13 and the key views of Alternative 5 at the eastern cable pole and I-15 crossing have been revised because the requested revisions to the simulation could be noticeable to viewers. The general revisions requested by SDG&E and the difference between the visual simulation in the Draft EIR and the requested revisions to the simulations

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are described below and in individual comment responses (see responses to comments D3-118 through D3-143). Revisions to these simulations would not change the overall conclusion for each KOP where the Proposed Project and alternatives would result in a significant and unavoidable impact on visual character, even with application of the APMs and mitigation measures described in the Draft EIR.

#### **Tubular Steel Pole Arms**

SDG&E commented that all the simulations of the proposed TSP arms were curved (gull) instead of straight arms. It was furthermore stated that SDG&E does not construct TSPs with curved arms. In contrast to what the comment indicates, SDG&E has a history of using gull arms in the Proposed Project area as shown in existing KOP photos, Figures 4.2-7, 4.2-9, 4.2-11, and 4.2-13 of the Draft EIR. The TSPs would be constructed with straight arms, similar to Draft EIR Figures 2.2-8 and 2.2-17. The visual simulations in the Draft EIR show curved arms on the TSPs; however, the visual difference between curved and straight arms would be nearly imperceptible at most KOPs due to the distance from the viewer to the nearest pole and the minimal curvature shown in the TSP arm. The TSP arms have been revised in the simulations for KOPs #1, #5, #7, and #13 (Figures 4.2-6, 4.2-14, 4.2-18, and 4.2-30). These revised simulations provide representative examples of straight TSP arms and document the visual difference between a straight and curved TSP arm.

#### **Conductors and Wires**

SDG&E commented that conductors were not properly bundled, appeared misplaced, or appeared discontinuous in several KOPs. Bundled conductors would be installed similar to the conductors shown in Figure 2.2-15. The conductors and wires simulated at KOPs #1, #2, #3, #5, #8, #9, #13, and key views of Alternatives 2 and 3 (eastern cable pole and western cable pole) varied from the typical details and descriptions in Chapter 2: Project Description of the Draft EIR. The conductors and wires were missing or did not connect properly to insulators. However, the simulations accurately portray the level of visual contrast and provide a representation of the proposed conductors. Revising the simulations to more precisely depict the location and slope of the conductors would not change the analysis of the visual impact for any KOP. The conductors have been revised in KOPs #1, #5, and #13 to demonstrate that the change in conductor location does not change the Proposed Project's impact on visual quality.

#### **Insulators**

SDG&E commented that the I-string insulators depicted in the simulations at KOPs #10 through #15, and the key view of Alternative 4 should be removed. The simulations portray the proposed V-string insulators on the existing steel lattice towers but the existing I-string insulators were not removed in the simulation. The conductors associated with the I-string insulators are indiscernible at the scale of the printed simulations due to the number of conductors in the vicinity of the insulators. The removal of the I-string insulators and associated conductors would not change the Proposed Project's impact on the visual character because the I-string insulators and associated conductors are not dominant elements in the landscape. Revisions to the simulated insulators and associated conductors have been made to KOP #13 to



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document the imperceptible level of change on visual quality that would result from a different insulator type.

#### **Tubular Steel Pole and Cable Pole Color**

SDG&E commented that the color of the proposed TSP and cable poles illustrated in the KOPs #4 and #8 simulations appeared unrealistic. The proposed TSPs and cable poles are modeled as galvanized metal with no treatments. The existing poles shown in KOP #4 are painted, which contrasts with the untreated poles. The simulations do not incorporate any APMs or mitigation measures, which would reduce this contrast (i.e., Mitigation Measure Aesthetics-3). The color of the TSPs in the simulations is representative of the proposed poles. No changes to the TSP color are required because the color shown in the Draft EIR visual simulations correctly illustrates the color of a galvanized metal pole under existing lighting conditions.

#### **High Voltage Bands**

SDG&E commented that high voltage bands were not shown on the proposed TSPs in the simulations at KOPs #1, #4, #10, and #11. The high voltage bands are one of the two options for marking high voltage poles (High Voltage Marking of Poles, General Order 95, Rule 51.6-A of the CPUC). The other option would be a sign or pair of signs denoting “high voltage” on the cross arms. The high voltage bands would be more visible than the signage. The high voltage bands were not shown in the simulations at KOPs #1, #4, #10, and #11. The high voltage bands would be difficult to see or indiscernible in these simulations.

SDG&E also commented that yellow bands should be removed from the top of the proposed TSPs in the simulations at KOPs #1, #3, #4, #10, and #11. In the simulations at KOPs #1, #4, #10, and #11, there were no yellow bands visible at the top of the proposed TSPs in the simulations. The yellow band at the top of the proposed TSP was visible only in the KOP #3 visual simulation. SDG&E commented that the yellow bands on the proposed TSPs in the KOP #3 visual simulation appeared to be offset from the pole surface. The KOP #3 visual simulation has not been revised to remove the yellow band because the precise location of the yellow band on the proposed TSP does not change the Proposed Project impact on visual character.

#### **Marker Balls**

SDG&E commented that simulations at KOPs #1, #2, #3, #6, #7, #11, #14, and #15 depict “floating”, inaccurately sized, more numerous, and/or incorrectly colored marker balls. The FAA recommends using orange, white, and yellow marker balls normally with an orange marker ball at each end of the line. Additionally, the FAA recommends that marker balls<sup>1</sup> be at least 36 inches in diameter. The proposed marker balls would be installed in accordance with the final FAA determination. Details regarding the FAA guidance for marker ball locations and spacing are provided under General Response GR-2.

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<sup>1</sup> For extensive catenary wires that cross canyons, lakes, rivers, highways, aviation corridors etc.

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Several marker balls do appear to be “floating” in the simulations. The KOPs with “floating” marker balls provide the viewer with an adequate representation of where the marker balls would be located and accurately depict the visual impact of the Proposed Project. The marker balls appear to be floating because the transmission line conductors blend in with the background scenery due to the distance between the KOP and the marker balls and viewing angle. The marker balls, which are intended to be more noticeable than the transmission line wires (in order to prevent aviation collisions), stand out against the background and give the appearance that the marker balls are floating. The marker balls were correctly sized in relation to the surroundings. The marker balls were simulated with 175 feet of separation between each ball, which is within the recommended FAA spacing limits. A greater number of marker balls were inadvertently shown on KOP #7, #14, and #15. The simulations depict yellow, white, orange, and red marker balls. The red colored marker ball was simulated, in addition to the FAA recommended colors, based on field observations of marker ball colors in the Proposed Project vicinity. Marker ball coloring has been revised in the simulations for KOPs #1 and #7, and the key view of the Alternative 5 eastern cable pole to document the visual contrast that would result from using only FAA recommended colors. The number of marker balls also has been revised in the simulation for KOP #7. See response to comment D3-125.

#### **Retaining Walls**

SDG&E commented that the design of the retaining walls did not appear correct in simulations at KOPs #1, #3, and #13, and the key view of Alternative 5 eastern cable pole. The height of the proposed retaining walls is listed in Table 2.3-4 of the Draft EIR, and the design is described in Section 2.3.3.5 of the Draft EIR. Retaining wall dimensions and design in the visual simulations at KOPs #1, #3, #13, and the key view of Alternative 5 eastern cable pole were evaluated for accuracy and consistency with the proposed retaining wall heights.

The retaining walls depicted in the visual simulation at KOP #3 appear taller than proposed and the design does not smoothly transition into the ground. The difference in dimensions and design between what is proposed versus what is simulated at KOP #3 is not substantial. The retaining walls rendered in the simulations at KOPs #1 and #13, and the key view of Alternative 5 at the eastern cable pole were substantially taller than proposed by SDG&E. The simulations for KOPs #1 and #13, and the key view of Alternative 5 at the eastern cable pole have been revised for accuracy. While the revised retaining wall height at KOPs #1 and #13, and the key view of Alternative 5 at the eastern cable pole are noticeably different than the height in the Draft EIR visual simulations, the reduced retaining wall height does not substantially affect the impact of the Proposed Project on visual character.

#### **Fencing**

SDG&E commented that the fencing was inaccurately depicted in several simulations of the alternatives. The fencing in the simulation of Alternative 5 at the eastern cable pole was too tall in comparison to the surroundings. The fence has been revised in the simulation of Alternative 5 at the eastern cable pole to better represent the height of the fence consistent with the description of the fence in Chapter 3: Alternatives of the Draft EIR. The revised simulation better represents the height of the fence around the Alternative 5 eastern cable pole. SDG&E

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commented that the fencing in the simulation of Alternative 4 should portray a dedicated perimeter fence for each cable pole rather than a continuous fence and the fence material may be different than simulated. Dedicated fences for each cable pole would appear very similar to the continuous fence from the distance portrayed at the Alternative 4 key view. The comment regarding the fence material depicted in the Alternative 4 simulation is speculative because SDG&E did not definitively state what fence material would be used. The fence material may or may not change and is reasonably represented by the material shown in the simulation.

#### **Bases and Foundations**

SDG&E commented that gravel would not be applied to work pads and the base of the proposed TSPs and foundations appear to be missing or inaccurately sized in simulations at KOPs #5, #6, #7, #14, and #15. Foundations would be constructed as described in Section 2.2.2.2 of the Draft EIR.

The grey or incongruous appearance of the work area in simulations at KOPs #5 and #6 show disturbed earth, not a gravel base. The foundations were missing or appeared slightly enlarged in simulations at KOPs #5, #7, #14, and #15. Visual simulations at KOPs #5 and #7 have been revised to add the proposed TSP foundations. The color of the work area has been revised to appear similar to the existing soil visible at KOP #5 to demonstrate that these minor modifications do not affect the Proposed Project impact on visual quality.

#### **Summary**

Changes to the visual simulations are summarized in Table 3.1-1. Responses to comments D3-118 through D3-143 provide the detailed rationale for incorporation or rejection of the SDG&E suggested modifications to the simulations. The requested revisions have been incorporated into simulations at KOPs #1, #5, #7, #8, #13, and the key view of Alternative 5 at the eastern cable pole. The key view of the Alternative 5 I-15 crossing has been updated to reflect an optional crossing with only two poles (design Option 2; see response to comment D2-17) instead of the four shown in the Draft EIR. The quantitative analyses have been revised for the simulations at KOPs #1, #5, and #13; however, the impact conclusion did not change as a result of the revisions to the ratings. The Proposed Project would continue to result in a significant and unavoidable impact to visual character.

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**Table 3.1-1 Summary of Draft EIR KOP Analysis and Response to SDG&E Comments**

KOP	Draft EIR Impact Conclusion	Revisions to Simulation	Final EIR Impact Conclusion
(Figure 4.2-6)	Less than significant with mitigation	<ul style="list-style-type: none"> <li>• Cross arms revised to straight</li> <li>• Marker ball colors and pattern revised</li> <li>• Perspective of conductors revised</li> <li>• Reduced retaining wall height</li> </ul>	No change to analysis or conclusion
(Figure 4.2-8)	Less than significant	No revisions needed	No change to analysis or conclusion
(Figure 4.2-10)	Less than significant with mitigation	No revisions needed	No change to analysis or conclusion
(Figure 4.2-12)	Less than significant	No revisions needed	No change to analysis or conclusion
(Figure 4.2-14)	Less than significant	<ul style="list-style-type: none"> <li>• Ground color revised</li> <li>• Foundation added</li> <li>• Cross arms revised to straight</li> <li>• Conductor connections revised</li> </ul>	Analysis revised from "low" to "moderate" No change to conclusion
<b>(Figure 4.2-16)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
<b>(Figure 4.2-18)</b>	<b>Significant and unavoidable</b>	<ul style="list-style-type: none"> <li>• Marker ball colors and pattern revised</li> <li>• Cross arms revised to straight</li> <li>• Added existing H-frame</li> <li>• Foundation added</li> </ul>	No change to analysis or conclusion
<b>(Figure 4.2-20)</b>	<b>Significant and unavoidable</b>	<ul style="list-style-type: none"> <li>• Reoriented cable pole</li> <li>• Added conductor shroud</li> <li>• Added northbound 138kV conductors</li> <li>• Conductor connections revised</li> <li>• Added shield wire</li> </ul>	No change to analysis or conclusion
(Figure 4.2-22)	Less than significant	No revisions needed	No change to analysis or conclusion
(Figure 4.2-24)	Less than significant	No revisions needed	No change to analysis or conclusion
<b>(Figure 4.2-26)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
(Figure 4.2-28)	Less than significant	No revisions needed	No change to analysis or conclusion

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KOP	Draft EIR Impact Conclusion	Revisions to Simulation	Final EIR Impact Conclusion
(Figure 4.2-30)	Less than significant with mitigation	<ul style="list-style-type: none"> <li>• Cross arms revised to straight</li> <li>• Removed I-string insulators</li> <li>• Reduced retaining wall height</li> <li>• Moved proposed TSP location</li> <li>• Reduced proposed TSP height</li> </ul>	<p>Analysis revised from “moderately high” to “moderate”</p> <p>Conclusion revised to: Less than significant</p>
<b>(Figure 4.2-32)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
<b>(Figure 4.2-34)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
<b>Alternative 1 View Point (Figure 4.2-40)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
<b>Alternative 2 View Point (Figure 4.2-42)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
Alternative 3 View Point (Figure 4.2-44)	Less than significant	No revisions needed	No change to analysis or conclusion
<b>Alternative 3 View Point (Figure 4.2-46)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
<b>Alternative 4 View Point (Figure 4.2-48)</b>	<b>Significant and unavoidable</b>	No revisions needed	No change to analysis or conclusion
<b>Alternative 5 View Point (Figure 4.2-50)</b>	<b>Significant and unavoidable</b>	<ul style="list-style-type: none"> <li>• Reoriented cable pole</li> <li>• Added conductor shroud</li> <li>• Reduced fence height</li> <li>• Reduced retaining wall height</li> <li>• Revised proposed steel H-frame to a dead end structure</li> </ul>	No change to analysis or conclusion
Alternative 5 View Point (Figure 4.2-52)	Less than significant	<ul style="list-style-type: none"> <li>• Removed interset poles</li> <li>• Moved cable poles and revised height of cable poles</li> </ul>	No change to analysis or conclusion
Alternative 5 View Point (Figure 4.2-54)	Less than significant	No revisions needed	No change to analysis or conclusion

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#### GR-4 Health Effects of Transmission Lines and Electromagnetic Fields

Many commenters expressed concerns regarding the health effects of electric and magnetic fields (EMF) on both adults and children. Health concerns regarding EMF are discussed in Section 2.6 of Chapter 2: Project Description of the Draft EIR. This general response provides supplemental information on the following:

- EMF Research
- EMF Data Applicable to Alternatives
- Methods to Reduce Magnetic Fields
- Magnetic Field Reduction Measures for the Proposed Project and Alternatives

The CPUC does not consider EMF to be an environmental issue in the context of CEQA because: (a) there is no agreement among scientists that EMF creates a potential health risk, and (b) CEQA does not include standards for defining any potential risk or impact from EMF. As a result, the information provided in the EIR is presented for the benefit of the public and decision makers for informational purposes only and is not considered within the environmental analysis of the Proposed Project or alternatives.

#### EMF Research

A substantial amount of research investigating both electric and magnetic fields has been conducted over the past several decades; however, much of the body of national and international research regarding EMF and public health risks remains contradictory or inconclusive. EMF research on ambient magnetic fields in homes and buildings in several western states found average magnetic field levels within most rooms to be approximately 1 milligauss (mG), while in a room with appliances present, the measured values ranged from 9 to 20 mG (Severson et al. 1988 and Silva et al. 1989). Immediately adjacent to appliances, magnetic field values are much higher, as illustrated in Tables 3.1-2. Table 3.1-2 indicates typical sources and levels of magnetic field exposure the general public experiences 12 inches from household appliances. These values are provided as a comparison to Proposed Project and alternatives magnetic field values presented in the Draft EIR.

**Table 3.1-2 Typical Magnetic Field Values for Appliances at 12 Inches**

Appliance	Magnetic Field Strength (mG)	Appliance	Magnetic Field Strength (mG)
Clothes dryer	1 to 3	Fluorescent desk lamp	6 to 20
Clothes washer	2 to 30	Food processor, blender	6 to 20
Coffee maker	0.8 to 1	Garbage disposal	10 to 20
Crock pot	0.8 to 1	Hair dryer	1 to 70
Electric drill	25 to 35	Iron	1 to 3
Electric oven	2 to 25	Refrigerator	0.3 to 3
Electric range	3 to 30	Toaster	0.6 to 8
Electric shaver	1 to 100	Vacuum cleaner	20 to 200

Source: Gauger 1985

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#### EMF Data Applicable to the Proposed Project

In response #11 to Data Request #3, SDG&E provided the CPUC with existing and predicted EMF values for the Proposed Project. On September 29, 2015, SDG&E provided revised EMF data applicable to the Proposed Project. In regards to the revised EMF data, SDG&E explains that the engineer who prepared the original calculations retired in late 2014; a different engineer ran the model a second time in the course of preparing a Magnetic Field Management Plan for the project (SDG&E 2015b). While both models used the same load case year (2017 heavy summer load case), output values from the model differed slightly based on minor adjustments to input conditions. The original and new EMF values differ by less than two percent.

Table 2.6-1 of Chapter 2: Project Description of the Draft EIR has been revised to reflect the updated EMF values provided by SDG&E, as shown below.

The new information provided by SDG&E necessitated a revision to the references and citations in the chapter. The “SDG&E 2015” source was revised to “SDG&E 2015<sup>a</sup>” and the following source was added to the references list in Chapter 2: Project Description:

[. 2015b. SXPQ ED10-SDGE Partial Response 3: Q1-subpart 3 on EMF. September 29, 2015.](#)

**Table 2.6-1 Existing and Proposed EMF by Transmission Line Segment**

Line Segment	Existing (mG)	Proposed (mG)	Change (mG)
Segment A West (north of Chicarita Substation)	16.7	48.9	+32.2
Segment A East (north of Chicarita Substation)	13.0	<del>46.5</del> <u>46.8</u>	<del>+33.5</del> <u>+33.8</u>
Segment A West (south of Chicarita Substation)	29.9	48.9	+19.0
Segment A East (south of Chicarita Substation)	17.1	<del>46.5</del> <u>46.8</u>	<del>+29.4</del> <u>+29.7</u>
Segment B North	0.0	0.1	+0.1
Segment B South	0.0	0.3	+0.3
Segment C West	18.5	<del>122.3</del> <u>121.9</u>	<del>+103.8</del> <u>+103.4</u>
Segment C East	4.5	<del>91.0</del> <u>92.6</u>	<del>+86.5</del> <u>+88.1</u>
Segment D North	21.2	<del>9.5</del> <u>9.4</u>	<del>-11.7</del> <u>-11.8</u>
Segment D South	2.6	135.9	+133.3

<sup>1</sup> [Cardinal directions \(i.e., North, South, East, West\) indicate the side of the ROW from which the EMF measurement was estimated.](#)

Sources: SDG&E 2014, SDG&E 2015<sup>a</sup>, [SDG&E 2015b](#)

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#### EMF Data Applicable to Alternatives

On September 29, 2015, SDG&E provided EMF data applicable to alternatives to the Proposed Project in response to CPUC Data Request #10. This EMF data was later revised in response to CPUC Data Request #19, and is included in Attachment 3 of this Final EIR. Draft EIR Section 2.6.7 of Chapter 2: Project Description has been revised as follows to include information provided by SDG&E:

SDG&E provided EMF data for alternatives in Partial Response #3 to Data Request #10 on September 29, 2015. This EMF data was not included in the Draft EIR because it was received after publication of the Draft EIR on September 17, 2015.

~~The magnetic field levels along the Proposed Project Alternative alignments (described in Chapter 3 of this EIR) can be modeled; as described above for the Proposed Project, the magnetic field information for alternatives is not based on field measurement but rather on modeling, which does not predict actual field levels. The “proposed” EMF levels along Alternatives 1, 2, 3, 4, and 5 are presented in Table 2.6-4. However, SDG&E failed to provide this information in response to CPUC Data Request #10, Question #1. EMF levels associated with cable pole relocation alternatives would be the same as those values provided above for the Proposed Project. EMF levels for alternatives that underground the 230-kV transmission line would be expected to roughly approximate those levels described above for Segment B underground portion of the Proposed Project.~~

If an alternative or combination of alternatives to the Proposed Project is approved, SDG&E would be required to prepare an updated Field Management Plan for CPUC approval. The CPUC would monitor implementation of the measures included in the updated Field Management Plan once approved. These measures would be included in the MMCRP.

**Table 2.6-4 Proposed EMF by Alternative**

Line Segment <sup>1</sup>	Existing (mG)	Proposed (mG)	Change (mG)
<u>Alternative 1 North</u>	<u>0.0</u>	<u>0.1</u>	<u>+0.1</u>
<u>Alternative 1 South</u>	<u>0.0</u>	<u>0.3</u>	<u>+0.3</u>
<u>Alternative 2 North</u>	<u>0.0</u>	<u>0.1</u>	<u>+0.1</u>
<u>Alternative 2 South</u>	<u>0.0</u>	<u>0.3</u>	<u>+0.3</u>
<u>Alternative 3 North</u>	<u>No Data</u>	<u>3.9</u>	<u>N/A</u>
<u>Alternative 3 South</u>	<u>No Data</u>	<u>0.6</u>	<u>N/A</u>
<u>Alternative 4 North (69-kV underground lines within Carmel Mountain Road)</u>	<u>No Data</u>	<u>8.3</u>	<u>N/A</u>



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Line Segment <sup>1</sup>	Existing (mG)	Proposed (mG)	Change (mG)
<u>Alternative 4 South (69-kV underground lines within Carmel Mountain Road)</u>	<u>No Data</u>	<u>1.8</u>	<u>N/A</u>
<u>Alternative 4 North (230-kV overhead line within existing ROW)</u>	<u>21.2</u>	<u>79.2</u>	<u>+58.0</u>
<u>Alternative 4 South (230-kV overhead line within existing ROW)</u>	<u>2.6</u>	<u>3.3</u>	<u>+0.7</u>
<u>Alternative 5 North (230-kV underground line)</u>	<u>No Data</u>	<u>3.9</u>	<u>N/A</u>
<u>Alternative 5 South (230-kV underground line)</u>	<u>No Data</u>	<u>0.6</u>	<u>N/A</u>
<u>Alternative 5 West (230-kV western overhead line)</u>	<u>No Data</u>	<u>43.0</u>	<u>N/A</u>
<u>Alternative 5 East (230-kV western overhead line)</u>	<u>No Data</u>	<u>58.3</u>	<u>N/A</u>
<u>Note:</u>			
<u><sup>1</sup> Cardinal directions (i.e., North, South, East, West) indicate the side of the ROW from which the EMF measurement was estimated.</u>			

Source: SDG&E 2015b

#### Methods to Reduce Magnetic Fields

Several magnetic field reduction methods may be employed for new and upgraded electrical facilities. The following methods are consistent with the CPUC policy to implement low- and no-cost measures to reduce EMF:

- Increasing the distance from electrical facilities by:
  - Increasing structure height (for aboveground facilities) or trench depth (for underground facilities)
  - Locating power lines closer to the centerline of the corridor
- Reducing conductor spacing
- Phasing circuits to reduce magnetic fields

Because the strength of magnetic fields decreases with increasing distance from the source, increasing the height or depth of conductors from ground level would result in lower field levels at the edge of the right-of-way (ROW). Locating power or transmission lines closer to the centerline of the ROW would have the same effect.

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Reducing the spacing between conductors reduces magnetic field strength because “the magnetic field produced by overhead and underground power lines is approximately inversely proportional to the distance between the phase conductors” (SDG&E 2006). Therefore, reducing the spacing between conductors by 50 percent would reduce the magnetic field strength at ground level by approximately 50 percent. CPUC General Order 95 includes minimum distances between conductors for safety purposes; thus, design constraints limit the amount of magnetic field reduction that can occur through reducing conductor spacing. Magnetic fields can be reduced to a greater extent in an underground line than an overhead line because underground conductors are insulated, allowing the conductors to be placed within inches of each other.

The magnetic field from one circuit can reduce the magnetic field from another circuit in the same corridor or on the same structure if the circuits are properly phased. The resultant magnetic field strength of two circuits on the same structure is the vector sum of the individual circuits’ magnetic fields. Thus, current flowing in opposite directions has a subtractive effect, resulting in a reduced magnetic field at ground level.

#### **Magnetic Field Reduction Measures for the Proposed Project and Alternatives**

##### **Proposed Project Magnetic Field Reduction Measures**

SDG&E would implement low- and no-cost measures to reduce magnetic field levels for the Proposed Project using the 4 percent CPUC benchmark and SDG&E’s *EMF Design Guidelines for Electrical Facilities* filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06-01-042. SDG&E reviewed the Proposed Project power lines and transmission lines for implementation of magnetic field reduction measures. Two measures proposed by SDG&E would be implemented with the Proposed Project; several other measures were considered but rejected for various reasons. The rejected measures and the rationale for their dismissal are provided in Table 2.6-2 in Chapter 2: Project Description of the Draft EIR and in the Detailed Magnetic Field Management Plan included within Appendix C of the Draft EIR.

To reduce EMF along the Proposed Project, SDG&E would:

- Use taller soldiered pole locations relative to existing structures to increase the height of conductors from the ground along Segments A and D
- Reverse the phase on one set of wires in Segment B and reverse the phase of TL 23004 when bundling TL 23004 and TL 23001 in Segment C

##### **Magnetic Field Reduction Measures for Alternatives**

If an alternative or combination of alternatives to the Proposed Project is approved, SDG&E would be required to prepare an updated Magnetic Field Management Plan for CPUC approval. The CPUC would monitor implementation of the measures included in the updated Magnetic Field Management Plan once approved. These measures would be included in the Mitigation Monitoring and Compliance Reporting Program (MMCRP).

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#### GR-5 Corona Noise Impacts

Several commenters raised concerns about corona noise associated with the new 230-kV transmission lines. The locations subject to corona noise and the expected level of corona noise along the Proposed Project and alternative alignments are discussed below. Corona noise is addressed in Section 4.8: Noise of the Draft EIR, specifically Impact Noise-1 and Impact Noise-3.

Corona noise would be audible at receptors within 900 feet of the Proposed Project alignment and overhead portions of the alternative alignments. The most direct causes resulting in corona noise increases are higher humidity in the air and greater number of transmission lines.

The amount of corona noise generated by two 230-kV transmission lines is not equal to the sum of the noise produced by each line individually. Instead, the combined noise level produced by multiple power lines is calculated using logarithmic summation. For example, if one 230-kV transmission line produces a noise level of 49 decibels (dB), then two 230-kV transmission lines side by side would generate a combined noise level of 52 dB, or an increase of only 3 dB. The threshold of a noticeable sound increase is 3 dBA (A-weighted sound level), which is at the lower limit of human perception.

Corona noise is audible under existing conditions along Segments A and C of the Proposed Project alignment due to an existing 230-kV transmission line. Corona noise would not be expected to increase significantly along Segments A and C with the addition of a second 230-kV transmission line. Residents can expect a slight (3 dBA) noise increase over the noise produced by the existing transmission lines. In locations along the Proposed Project alignment where a 230-kV transmission line does not exist (i.e., Segment D), residents would experience a significant sound increase due to corona noise from the proposed 230-kV transmission line.

Residents and receptors near underground portions of the Proposed Project and the alternatives would not experience corona noise.

There are few options for treating corona noise; however, transmission line maintenance can help reduce corona noise. Mitigation Measure Noise-4 requires the installation of corona rings, which would help to reduce some corona noise generated at the conductor. In comment D3-166, SDG&E attested that controls to reduce corona noise (i.e., corona rings) are unavailable for use on the Proposed Project. However, SDG&E has not provided any evidence to support the statement that the controls included in Mitigation Measure Noise-4 would not be available for use on the Proposed Project. Corona rings exist and have been installed on other transmission lines; therefore, it is reasonable to assume they could be used on the Proposed Project. Mitigation Measure Noise-5 requires SDG&E to respond to and investigate third-party corona noise complaints and to implement feasible and appropriate repairs such as repair of damaged hardware or conductors. These measures would not reduce noise impacts to less than significant levels in Proposed Project Segment D as described in Section 4.8.8 of the Draft EIR.

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#### **GR-6 Support for Alternative 5**

One hundred and twenty-seven agency, organization, and individual commenters expressed support for Alternative 5 in their comments. The following list summarizes the reasons commenters support Alternative 5:

- Reduces impacts on biological resources in general
- Reduces impacts on vernal pools and sensitive plants
- Reduces impacts on environmentally sensitive habitat areas within the coastal zone
- Reduces impacts on open space recreational areas
- Reduces visual impacts on Los Peñasquitos Canyon Preserve
- Reduces above-ground transmission lines and associated aesthetic impacts and fire risk
- Reduces health impacts in general
- Reduce health impacts by reducing EMF
- Reduces EMF along the Proposed Project ROW
- Locates the transmission line in a mostly commercial area and away from residential areas
- Reduces impacts from construction noise and corona noise

The CPUC identified Alternative 5 as the Environmentally Superior Alternative in both the Draft EIR and Final EIR. The CPUC's ranking of Alternative 5 as the Environmentally Superior Alternative reflects an overall evaluation of environmental impacts of the Proposed Project and alternatives across the environmental parameters considered under CEQA. For further details on the CPUC ranking of alternatives, please refer to Chapter 6: Comparison of Alternatives of the Draft EIR.

#### **GR-7 Alternative 3 Impacts and Ranking**

Twenty-nine comments included concerns regarding the impacts of Alternative 3 and the ranking of Alternative 3 relative to the Proposed Project. Commenters expressed the following concerns for Alternative 3:

- EMF and health impacts on residents on Park Village Road
- Impacts on property values along Park Village Road
- Construction-related traffic impacts on Mercy Road, Black Mountain Road, and Park Village Road
- Impacts on emergency evacuation from Park Village Road
- Proximity to Park Village Elementary School
- Impacts on school bus stops along Park Village Road
- Impacts on bike lanes and sidewalks on Park Village Road
- Noise and air quality impacts during construction
- Support for the approval of Alternative 5

This general response to comments on Alternative 3 clarifies the manner in which the CPUC identified and evaluated the impacts associated with the construction and operation of Alternative 3 in the Draft EIR.

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#### **Alternative 3 EMF and Health Impacts on Residents on Park Village Road**

There are currently no defined or adopted CEQA standards for defining health risk from EMF; therefore, EMF is not considered to be an environmental impact under CEQA. However, for informational purposes, modeling of the potential EMF generated by the Proposed Project is presented in Chapter 2: Project Description of the Draft EIR, and EMF data for alternatives is included in Attachment 3: EMF Data for Project Alternatives of this Final EIR. Information regarding EMF levels of the Proposed Project and Alternatives are discussed further in General Response GR-4 above.

#### **Alternative 3 Impacts on Property Values along Park Village Road**

Impacts on property values are not considered environmental impacts under CEQA as discussed in General Response GR-8 below; therefore, they were not evaluated in the Draft EIR.

#### **Alternative 3 Construction-Related Traffic Impacts on Mercy Road, Scripps Poway Parkway, and Park Village Road**

The Draft EIR identifies and analyzes the impacts of the construction-related vehicle trips associated with Alternative 3 on roadway level of service (LOS). The Draft EIR also identifies and analyzes the impact of lane closures on traffic flow during underground construction within roadways (refer to Section 4.7: Transportation and Traffic of the Draft EIR for further details). Data representing existing conditions for the transportation network were collected and analyzed from a variety of sources, including highway maps, route alignment maps, and maps from various reports. Baseline traffic volumes for roads and highways within the Alternative 3 area were obtained from SANDAG (2010), Caltrans (2013), and KOA (2014). Lane information was obtained from aerial photographs, local government agencies, and street view photography, including Google Earth.

#### **Impact on Level of Service**

As discussed in Section 4.7.11 of the Draft EIR, construction of the underground transmission line for Alternative 3 would require a greater amount of vehicle trips compared to the Proposed Project. The maximum number of daily construction-related vehicle trips (shown in Table 4.7-14 of the Draft EIR) that would result from Alternative 3 was estimated by calculating the number of workers and deliveries needed on a peak day of construction. It was assumed that trucks and construction workers traveling to and from the Alternative 3 area would use existing state highways and local roads, specifically Mercy Road, Scripps Poway Parkway, Black Mountain Road, Park Village Road, I-15, and SR-56; however, impacts on LOS on these highways and roads were calculated by assuming that the maximum number of trips per day would travel down the same road. This approach provides a very conservative assessment of traffic-related impacts because vehicles are unlikely to all be concentrated on the same road. Instead, construction-related trips would likely be distributed throughout the local road network, depending on the locations of work. The worst-case scenario estimated traffic volumes on area roads are provided in Appendix M: Transportation and Traffic Support Information of the Draft EIR. The impact of Alternative 3 construction traffic on LOS would be less than significant for all local roads because the change in the volume to capacity ratio would be less than 0.02 for

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any road operating at LOS E and less than 0.01 for any road operating at LOS F. The impact on SR-56 would be significant and unavoidable because SR-56 currently operates at LOS F and Alternative 3 could contribute to a substantial increase in peak traffic. Alternative 3 operation and maintenance would require inspections of vaults once every three years. The underground transmission line would not generate additional traffic on area roads during operation and maintenance; there would be no long-term impact on LOS.

#### **Impact on Traffic Flow**

Construction of the Alternative 3 underground transmission line within Mercy Road, Scripps Poway Parkway, Black Mountain Road, and Park Village Road would impact traffic flow as a result of temporary lane closures during trenching, duct bank construction, vault installation, and conductor installation for up to approximately 10 months. Existing traffic on Mercy Road, Scripps Poway Parkway, Black Mountain Road, and Park Village Road is heaviest during morning and evening commute hours. Mercy Road, Scripps Poway Parkway, and Black Mountain Road have more than one lane of traffic traveling in each direction. A single lane closure during underground transmission line construction would reduce the traffic down to one lane adjacent to the work area. On Park Village Road, there is currently one lane of travel in each direction. One lane of travel would remain in each direction on Park Village Road east of Celata Lane during construction because there is sufficient lane width with the adjacent bicycle lane to accommodate vehicle travel and a construction area within the roadway<sup>2</sup>.

West of Celata Lane on Park Village Road, traffic could be maintained by reducing traffic down to a single lane of travel with flaggers at each end of the work area (approximately 80 feet long). Parking would also be restricted in the vicinity of the work area on Park Village Road per Mitigation Measure Traffic-11. The restriction of parking would allow the maximum area for vehicle travel<sup>3</sup> around the work area to reduce travel delays and maintain emergency access during construction. Temporary lane and road closures for construction of the underground transmission line would significantly impact traffic flow if lane closures occurred during peak traffic hours. Mitigation Measure Traffic-6 requires SDG&E to restrict lane closures to non-peak hours and to install steel plates over the construction areas to maintain traffic flow during commuting hours. Impacts from temporary lane and road closures would be substantially

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<sup>2</sup> The minimum width of Park Village Road east of Celata Lane is approximately 60 feet curb-to-curb. In the County of San Diego, the minimum lane width for a collector road or residential road is 12 feet (County of San Diego 2012); therefore, two lanes of traffic would require 24 feet of road width. Construction would require up to 30 feet of road width during vault installations (16 feet during duct bank installation). Given these dimensions, up to 54 feet of road width would be necessary to accommodate construction and two lanes of traffic (one in either direction). Park Village Road east of Celata Lane is sufficiently wide to maintain one lane of traffic in either direction.

<sup>3</sup> West of Celata Lane, the minimum width of Park Village Road is approximately 40 feet curb-to-curb. Duct bank installation would require a work area up to 16 feet wide, and one lane of traffic would require 12 feet of road width. Given these dimensions, up to 28 feet of road width would be necessary to accommodate duct bank installation and one lane of traffic. Park Village Road west of Celata Lane is sufficiently wide to maintain one lane of traffic.

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reduced by avoiding construction during periods of peak traffic and maintaining travel around the work areas. Impacts on traffic flow from temporary lane and road closures would be less than significant with mitigation.

#### **Alternative 3 Impacts on Emergency Evacuation and Emergency Services during Construction within Park Village Road**

##### **Impacts on Emergency Access during Construction**

Impacts on emergency access are addressed in Impact Traffic-5 for Alternative 3 in Section 4.7: Transportation and Traffic (Section 4.7.11.2) of the Draft EIR. Additional information regarding the impacts of underground transmission line construction on emergency access can be found in General Response GR-12 below.

As discussed in Section 4.7.11.2 of the Draft EIR, construction of the underground transmission line would require temporary closure of one lane of traffic on Park Village Road during duct bank construction and vault installation. As described in the Draft EIR, Alternative 3 would have a significant impact on emergency access if it were to block an entrance or exit to a residential community or commercial area. West of Camino Del Sur, Park Village Road is the only emergency access route for the surrounding residential roadways, which end in cul-de-sacs. Road closure on Park Village Road would therefore restrict emergency access to the residential community, which would be a significant impact. However, Park Village Road west of Celata Lane is approximately 40 feet wide from curb to curb and the underground work area for duct bank construction would only be approximately 16 feet wide, leaving a 24-foot width of roadway for vehicle travel on Park Village Road. Per APM TR-3 and Mitigation Measure Traffic-1, SDG&E would be required to implement traffic controls during construction, including flaggers to direct vehicles around the work area and maintain emergency access during construction. Mitigation Measure Traffic-11 restricts parking near the underground work area to ensure there is adequate road width for vehicle travel around the work area during duct bank construction.

Vault installation is the single activity that requires the widest work area and has the greatest potential for impact on emergency access on Park Village Road. East of Celata Lane, one lane of traffic would remain open in both directions, as described above. Vault installation could occur without disrupting emergency access in this area. West of Celata Lane, the roadway narrows. According to preliminary engineering submitted by SDG&E and shown in Appendix E: Detailed Alternative Route Maps of the Draft EIR, only one vault would be installed west of Celata Lane along Park Village Road. This vault would be located between Mannix Road and Celome Lane, an area where no houses exist on either side of the road. Here, the road width is between 39 feet, 8 inches and 40 feet, 2 inches wide (see Final EIR Attachment 4: Park Village Road Measurements). SDG&E would require a maximum of 30 feet for vault installation, leaving a minimum of 9 feet, 8 inches for a traffic lane. However, SDG&E could use the northern sidewalk as part of their construction area, which is a minimum of 4.5 feet wide (see Attachment 4: Park Village Road Measurements of this Final EIR). Utilization of the sidewalk would increase the width of the area available for a traffic lane and accommodate a 12-foot-

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wide lane. Flaggers would be placed on either end of the lane to direct traffic per requirements in Mitigation Measure Traffic-1. Mitigation Measure Traffic-11 restricts parking near the underground work area to ensure there is adequate road width for vehicle travel around the work area during vault installation. Access to emergency vehicles and emergency access would not be blocked by construction of Alternative 3 with implementation of the mitigation measures included in the Draft EIR.

#### **Impacts on Emergency Access during Operation and Maintenance**

Section 4.7.11.2 of the Draft EIR states that inspection and maintenance access of the Alternative 3 underground vaults may require temporary lane closures. At least one lane of traffic would remain open at all times during inspections, and emergency access would therefore be maintained.

#### **Impacts on Emergency Evacuation Routes**

Please see General Response GR-12 below for a discussion of the impacts of underground transmission construction on emergency evacuation routes. Mitigation Measure Traffic-6 has been modified as shown in General Response GR-12 to require the placement of steel plates across the underground work area to restore full roadway access for emergency access and evacuation in the event of an emergency (e.g., wildfire). Through implementation of Mitigation Measure Traffic-6, the underground construction would not affect emergency evacuation because the roadway would be fully open to vehicles if there were a need for an emergency evacuation of the area.

#### **Alternative 3 Proximity to Park Village Elementary School**

Concerns raised regarding the proximity of the underground transmission line to Park Village Elementary School include the impacts of EMF on children, children's safety during construction, and increased traffic congestion during school pick-up and drop-off times. Please see General Responses GR-4 and GR-9 for a detailed discussion of these topics.

The Alternative 3 underground transmission line would be installed approximately 70 feet from the property line of Park Village Elementary School. As discussed in General Response GR-9, the State of California Department of Education has established required setbacks from power and transmission lines in CCR, Title 5, Section 14010(c). The required setback distance from a 230-kV underground transmission line is 37.5 feet. The Alternative 3 underground transmission line would be in compliance with this regulation as it would be more than 37.5 feet from Park Village Elementary School.

#### **Alternative 3 Impacts on School Bus Stops on Park Village Road**

There are two existing school bus stops along the Alternative 3 underground alignment along Park Village Road. These school bus stops are used to transport children to and from Park Village Elementary School. These bus stops would be affected during construction of the underground transmission line if the underground construction area is open in proximity to the bus stop during the school year because underground construction in the vicinity of a bus stop could result in temporary closure of a bus stop for safety. The Draft EIR described the impacts



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from underground construction on access and safety under Impact Traffic-4 and impacts from temporary lane closures under Impact Traffic-7 (refer to Section 4.7.11.2 of the Draft EIR for further details). The impact from temporary bus stop closures would be related to these impacts that were described in the Draft EIR. For clarity, the text of the Draft EIR is revised as shown below to specifically describe the impacts on school bus stops along Park Village Road under Section 4.7.11.2, Impact Traffic-6. Mitigation Measure Traffic-12, which was applied to Alternative 5, has been applied to Alternative 3 to reduce impacts.

#### *Underground Transmission Line*

~~There are no public transit facilities located along the Alternative 3 underground alignment (e.g., no bus stops). Construction of Alternative 3 would not affect public transit facilities or performance.~~

Construction of Alternative 3 could affect a school bus route that stops along the underground alignment on Park Village Road because temporary lane and road closures would cause short delays during peak traffic hours. An impact on the performance of the school bus(es) would occur if the delays caused students to be late for class. This impact would be significant.

Mitigation Measure Traffic-6 would restrict construction times and require coordination with schools so that construction would not occur during school drop-off and pick-up times. Impacts would be less than significant with mitigation.

Underground transmission line construction in the vicinity of a school bus stop could also cause bus stop closures and/or relocation(s) if underground construction occurred during the school year during school drop-off or pick-up times. Bus stop closure or relocation could affect access to bus stops, impacting the performance of these facilities. This would be a significant impact.

Mitigation Measure Traffic-12 requires SDG&E to coordinate with the City of San Diego School District regarding underground construction along bus routes and near bus stops and requires notification of all stop relocations. Bus stops will be temporarily relocated or bus routes will be temporarily rerouted as necessary until construction in the area is complete. Impacts would be less than significant with mitigation.

**Mitigation Measures: Traffic-1, Traffic-6, ~~and~~ Traffic-7 (refer to Section 4.7.8), and Traffic-12**

**Mitigation Measure Traffic-12: Consult with Bus and Transit Services.** 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

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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.

#### **Impacts on Bicycle Lanes and Sidewalks on Park Village Road**

Impacts on bicycle lanes and sidewalks are discussed in Impact Traffic-6 for Alternative 3 in Section 4.7: Transportation and Traffic of the Draft EIR. The underground transmission line along Park Village Road would be located partly within a bicycle lane. Construction of the underground transmission line would require temporary closure of the bicycle lane on Park Village Road during excavation and duct bank construction. The temporary bicycle lane closure could cause bicyclists to enter an active vehicle traffic lane on Park Village Road, which would decrease the performance and safety of the facility. Similarly, the temporary sidewalk closure could reduce pedestrian safety by causing pedestrians to walk along the roadway. These impacts would be significant.

Mitigation Measure Traffic-1 requires implementation of a CTMP that includes detours for bicyclists and pedestrians. Mitigation Measure Traffic-7 specifies the notification and detour requirements for bike lane or sidewalk closures. These measures would reduce the safety hazards to pedestrians and bicyclists during construction by providing safe detours for bicyclists and pedestrians and advance notification of work. Impacts on the safety of bicyclists and pedestrians during Alternative 3 construction would be less than significant with mitigation.

#### **Noise and Air Quality Impacts during Construction**

Noise impacts from construction of Alternative 3 are discussed in Section 4.8.11 of the Draft EIR; impacts on air quality from construction of Alternative 3 are discussed in Section 4.13.10 of the Draft EIR.

Construction of Alternative 3 would result in significant and unavoidable noise impacts. Specifically, Alternative 3 would expose persons to noise levels in excess of local noise standards and would result in a substantial temporary increase in ambient noise levels in the project vicinity during construction. Underground construction would occur as close as 10 feet from sensitive receptors. The noise from underground construction activities at 10 feet could reach up to 97 dBA, roughly as loud as the noise from a gas lawnmower at 3 feet away. SDG&E would notify residents of construction activities and respond to noise complaints per APM NOISE-3 and Mitigation Measure Noise-1, but these measures would not help reduce noise levels. Mitigation Measure Noise-2 would require SDG&E to utilize noise-suppression techniques such as noise barriers. SDG&E would coordinate underground construction activities with schools to schedule construction near schools outside of active instruction periods (e.g., before school, after school, during lunch or classroom breaks). However, noise from underground construction would still temporarily expose sensitive receptors to a substantial increase in noise that would exceed City of San Diego noise standards, resulting in significant and unavoidable noise impacts as described in the Draft EIR.

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Air quality impacts as a result of construction of Alternative 3 would also be significant and unavoidable. Alternative 3 would require additional diesel-powered equipment relative to the Proposed Project in order to construct a longer underground transmission line. As a result, Alternative 3 would result in nitrogen oxide (NO<sub>x</sub>) emissions that would exceed the emissions threshold. The air quality emissions model prepared by SDG&E assumed the use of a mix of 70 percent Tier 2 equipment and 30 percent Tier 3 equipment, which is required by APM AIR-4. Mitigation Measure Air-4 would require the use of 2007 and newer diesel-powered equipment and the use of equipment that meet a minimum of EPA Tier 3 emission standards, where available. However, this requirement would not reduce NO<sub>x</sub> emissions below the threshold, and impacts would remain significant and unavoidable.

#### **Ranking of the Environmental Impacts of Alternative 3 amongst all Alternatives**

Section 6.2.1 of the Draft EIR identifies Alternative 5 as the Environmentally Superior Alternative, as required by CEQA. The Proposed Project and all project alternatives will be considered equally during the CPUC decision-making process, which is described in General Response GR-1 above. The CPUC will seek a decision about the project that strikes a balance among power production, land use, environmental stewardship, and other factors that may be raised during evidentiary and public participation hearings.

The environmental evaluation of the project is but one factor considered by the CPUC during the decision-making process. The Final EIR is an informational document. It does not make a recommendation regarding approval or denial of the CPCN application, and it does not establish a route for the project.

The Draft EIR also presents a list of all alternatives “ranked” in order of their environmental superiority. The ranking of Alternative 3 has been re-evaluated to reflect the relative severity of the different impacts that would occur for the Proposed Project and each alternative. While Alternative 3 would avoid impacts associated with an overhead transmission line and construction in Black Mountain Open Space Park and Del Mar Mesa Preserve, Alternative 3 would result in an increased severity in community impacts such as noise, air quality, and traffic. These impacts result in a revised ranking of alternatives where the overall impact of Alternative 3 is equivalent to the Proposed Project. The conclusion in Chapter 6: Comparison of Alternatives has been revised as follows to reflect this change:

~~Alternative 3 would be environmentally superior to the Proposed Project because it would minimize significant and unavoidable impacts to visual character (the transmission line would be mostly underground with the exception of the two cable poles) and would reduce the significant and unavoidable impacts to less than significant to recreation access and noise. Similar to the Proposed Project, significant and unavoidable impacts to visual character, temporary and permanent noise levels, and traffic levels of service would remain. Alternative 3 would also create significant and unavoidable impacts to air quality due to additional emissions during construction. The significant and unavoidable air~~

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quality impacts from Alternative 3 would be temporary and limited to the 10 month construction period for Alternative 3.

The overall environmental impact from Alternative 3 would be comparable to the Proposed Project. Alternative 3 would minimize significant and unavoidable impacts on visual character (the transmission line would be mostly underground with the exception of the two cable poles) and would reduce the Proposed Project significant and unavoidable impacts on recreational access and corona noise. Alternative 3 would also reduce Proposed Project biological impacts by avoiding construction within Preserve areas. Alternative 3 would have a greater impact on traffic flow, emergency access, construction noise, and air quality than the Proposed Project. Impacts on traffic flow and emergency access would increase because Alternative 3 would include approximately double the length of underground construction within roadways compared to the Proposed Project. Construction of Alternative 3 would produce noise from underground construction in very close proximity to homes along a longer underground route than the Proposed Project. Alternative 3 would also create significant and unavoidable impacts on air quality due to additional emissions during construction. The significant and unavoidable air quality impacts from Alternative 3 would be temporary and limited to the 10 month construction period for Alternative 3. The overall impacts of Alternative 3 and the Proposed Project are equivalent.

Table 6.4-5 of the Draft EIR has been revised to reflect a change in the ranking of noise impacts:

Resource Area		Proposed Project (Segment A at Ivy Hill Drive to Peñasquitos Junction)	Alternative 3
Noise	Comparison	<b>Preferred Ranking = 2</b> <u>Lower temporary noise levels from underground construction.</u> Greater helicopter usage and distance of overhead transmission line (corona noise)	<b>Ranking = 2 Preferred</b> <u>Greater temporary noise levels from underground construction along a greater distance near sensitive receptors.</u> Lower temporary and permanent noise levels from lower helicopter usage and avoids corona noise on underground transmission line
	Impact	Significant and Unavoidable	Significant and Unavoidable

Section 6.2.1 of the Draft EIR has been revised to reflect changes in the ranking of alternatives, as shown below. Alternative 3 is ranked comparable to the Proposed Project with no modifications and it appears in two places in the ranking: once in ranking #4 and once in ranking #7. Alternative 3 appears twice because the combination of Alternative 4 with the Proposed Project or Alternative 3 (ranking #4)-3 and 4 would be environmentally preferable to either the Proposed Project with no modifications or Alternative 3 alone (ranking #7).

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1. Alternative 5: Pomerado Road to Miramar Area North Combination Underground/Overhead  
~~Combination of Alternative 3: Los Peñasquitos Canyon Preserve—Mercy Road Underground and Alternative 4: Segment D 69-kV Partial Underground Alignment, with Proposed Project in Segment A between the Sycamore Canyon Substation and Ivy Hill Drive~~  
~~No Project Alternative<sup>1</sup>~~  
~~Alternative 3: Los Peñasquitos Canyon Preserve Mercy Road Underground, with Proposed Project in Segment A between the Sycamore Canyon Substation and Ivy Hill Drive and Segment D~~  
~~Combination of Alternative 1: Cable Pole at Carmel Valley Road and Alternative 4: Segment D 69-kV Partial Underground Alignment, with Proposed Project in Segments A, B, and C~~
2. Combination of Alternative 2: Eastern Cable Pole at P40 and Underground Alignment through City Open Space and Alternative 4: Segment D 69-kV Partial Underground Alignment, with Proposed Project in Segments A, B, and C
3. Combination of Alternative 1: Cable Pole at Carmel Valley Road and Alternative 4: Segment D 69-kV Partial Underground Alignment, with Proposed Project in Segments A, B, and C
4. Alternative 4: Segment D 69-kV Partial Underground Alignment, with:
  - a. Proposed Project in Segments A, B, and C; or
  - b. Alternative 3: Los Peñasquitos Canyon Preserve –Mercy Road Underground with Proposed Project in Segment A between the Sycamore Canyon Substation and Ivy Hill Drive and Segment D~~Alternative 1: Cable Pole at Carmel Valley Road, with Proposed Project in all other locations~~
5. Alternative 2: Eastern Cable Pole at Pole P40 and Underground Alignment through City Open Space or City Water Utility Service Road, with Proposed Project in all other locations
6. Alternative 1: Eastern Cable Pole at Carmel Valley Road, with Proposed Project in all other locations
7. Proposed Project or Alternative 3: Los Peñasquitos Canyon Preserve –Mercy Road Underground with Proposed Project in Segment A between the Sycamore Canyon Substation and Ivy Hill Drive and Segment D
8. No Project Alternative

#### **GR-8 Transmission Line Effects on Property Values**

Several commenters have expressed concerns about the effects of the Proposed Project and/or alternatives on property values. Members of the public are concerned that property values would diminish as a result of increased hazards to human health and safety (including increases in EMF) and visual impacts associated with living in proximity to the proposed 230-kV transmission line. An EIR is required to evaluate the physical environmental impacts of

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a project (PRC § 21100); a project's economic and social effects are not treated as effects on the environment (CEQA Guidelines Section 15131(a)). Therefore, while not required by CEQA or evaluated as part of the EIR's impact analysis, this general response is intended to provide information on the ways in which transmission lines may impact property values. This response is provided for informational purposes only. General Response GR-3 provides information regarding the visual impacts of transmission lines, and General Response GR-4 provides information regarding the health effects of transmission lines and EMF.

#### **Effects of Transmission Lines on Property Values**

Numerous studies have been conducted on the effects of transmission lines on property values. Studies have generally concluded that the correlation between property values and high voltage transmission lines is minimal to non-existent. Property values range from unaffected to a decrease in value and occasionally a minimal increase in value. Any decrease in property values associated with transmission lines diminishes over time and distance (Jackson and Pitts 2010). Studies regarding the relationship between transmission lines and property values have found the following:

- Property values of lots adjacent to the ROW often increase because they have open space next to them; lots next to the adjacent lots often have a reduction in value (EPRI 2003)
- Higher-end properties are more likely to experience a reduction in selling price than lower-end properties (EPRI 2003)
- The degree of opposition to a project may affect the size and duration of the sales-price effects (EPRI 2003)
- Setback distance, ROW landscaping, shielding of visual and corona effects, and integration of the ROW into the neighborhood can significantly reduce or eliminate the impact of transmission structures on sales prices (EPRI 2003)
- Proximity to a transmission line can sometimes result in increased selling times for adjacent properties although appreciation of property does not appear to be affected (EPRI 2003)
- Effects of a transmission line on sales prices of properties diminish over time and all but disappear over several years most likely due to increased landscape screening (Kroll and Priestley 1992)
- Neighborhood, square footage, size of lot, irrigation potential, and other factors are much more likely than overhead transmission lines to be major determinants of the sales price of property (Kroll and Priestley 1992)
- Opinion surveys of property values and transmission lines may not necessarily overstate negative attitudes, but they understate or ignore positive attitudes (EPRI 2003).

Transmission lines effects on property value are usually smaller than anticipated by the public and are essentially impossible to quantify due to the varying weight of other factors in sales price including the condition of properties and neighborhoods, differences in personal preferences of individual buyers, and seller motivation (Jackson and Pitts 2010). These

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conclusions suggest that transmission lines generally have little influence on property values and the influence of transmission lines on property values diminishes over time.

#### **Consideration of Property Values in the CPUC General Proceeding**

Although not required under CEQA, impacts on property values may be presented and discussed at the evidentiary or public participation hearings for the Proposed Project or selected alternative. Any issues presented during the evidentiary or public participation hearings will be considered by the CPUC in their decision-making process. For further information regarding evidentiary hearings and the CPUC decision-making process, see General Response GR-1.

#### **Compensation for Right-of-Way**

The Proposed Project and project alternatives would occur within existing SDG&E ROW and franchise easements within City roads. While SDG&E is required to compensate landowners for any easements, there would be no direct compensation to private landowners as a result of the Proposed Project or an alternative because new ROW is not required.

#### **GR-9 Impacts on Schools**

Several commenters expressed concerns regarding impacts on schools related to transmission lines. Impacts on health as a result of EMF are discussed in General Response GR-3.

#### **School Setbacks from Electrical Transmission Lines and EMF**

##### **California Regulations Regarding School Setbacks from Transmission Lines**

As discussed in Section 2.6.4.4 of the Draft EIR, the California Department of Education evaluates potential school sites under a range of criteria, including environmental and safety issues. The State of California Department of Education has established setbacks from power and transmission line easements for any electrical power line rated 50-kV and above. The setback limits are codified in CCR, Title 5, Section 14010(c).

The setbacks from overhead transmission line easements are:

- 100 feet for lines from 50 to 133-kV
- 150 feet for lines from 220 to 230-kV
- 350 feet for lines from 500 to 550-kV

The setbacks from underground transmission line easements are:

- 25.0 feet for lines from 50 to 133-kV (interpreted by California Department of Education as up to 200-kV)
- 37.5 feet for lines from 220 to 230-kV
- 87.5 feet for lines from 500 to 550-kV

#### **Proposed Project and Alternative Distances to Nearest Schools**

Table 3.1-3 provides the distances to schools near the Proposed Project and alternative alignments.

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**Table 3.1-3 Schools near the Proposed Project and Alternative Alignments**

School	Distance to Nearest Work Area (feet)	Project Feature <sup>1</sup>
<b>Proposed Project, Alternative 1, and Alternative 2</b>		
Ellen Browning Scripps Elementary School	733	Work Area R15
Dingeman Elementary School	151	Work Area R19
Innovations Academy Public Charter School	200	Work Area R20
Rancho Peñasquitos KinderCare	522	Work Area R29
U.S. Arts Education Center	735	Work Area R29
The Kids Bay Learning Center	111	Temporary Underground Work Area
<b>Alternative 3</b>		
Park Village Elementary School	50	Underground Work Area
<b>Alternative 4</b>		
Sage Canyon School	25 <sup>2</sup>	Underground Work Area
<b>Alternative 5</b>		
California Miramar University	140	Underground Work Area
<b>Staging Yards</b>		
Canyon Crest Academy	25 <sup>3</sup>	SR-56 Staging Yard
The Kids Bay Learning Center	685	Evergreen Nursery Staging Yard

Notes:

- <sup>1</sup> Project features shown in the mapbook in Appendix A: Detailed Project Route Maps of the Draft EIR.
- <sup>2</sup> Distance is to the campus boundary. The distance to the nearest instructional or administration building is 200 feet.
- <sup>3</sup> Distance is to the campus boundary at the baseball field. The distance to the nearest instructional or administration building is over 1,000 feet.

#### Measures to Reduce EMF near Schools

SDG&E took into account potential impacts on schools during their design of EMF mitigation as required by the CPUC (refer to Table 2.6-3 in Chapter 2: Project Description of the Draft EIR). SDG&E determined that low- or no-cost EMF reduction measures could not feasibly or equitably reduce EMF at all school locations along the Proposed Project alignment given that the CPUC limits low-cost measures to 4 percent of the project cost. Further information on EMF reduction measures that were considered by SDG&E is presented Appendix C: Magnetic Field Management Plan of the Draft EIR. The final design of the Proposed Project and alternatives will take into account distance from schools and, in all cases, will comply with state and local laws and regulations.

#### Noise

The Proposed Project and Alternatives 3, 4, and 5 would have a significant and unavoidable noise impact on schools during construction (refer to Section 4.8: Noise of the Draft EIR). The



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Proposed Project would result in a substantial increase in temporary noise at schools as a result of helicopters traveling along the alignment near schools and construction equipment working near schools during overhead and underground transmission line construction. External noise conditions in excess of 50 dBA (1-hour) have the potential to disrupt classroom activities (County of San Diego 2009).

Noise mitigation measures were designed to address the impact of helicopters working in close proximity to schools. Mitigation Measure Noise-6 requires that SDG&E notify schools prior to helicopter activity in the vicinity of the school. The measure also restricts any helicopter activity within 300 feet of a school property at times when classes are in session. This restriction would reduce the impact of helicopter activity on schools by prohibiting helicopters from working in proximity to schools while classes are in session.

Mitigation Measure Noise-2 requires that SDG&E use noise suppression techniques to reduce noise levels during construction. The mitigation measure has been revised as shown below to include the use of sound walls or acoustic blankets when construction activities are conducted within 300 feet of a school. The use of sound walls or acoustic blankets would reduce the maximum noise levels experienced at schools when construction occurs in proximity to the school.

**Mitigation Measure Noise-2: Noise-suppression Techniques (supersedes APM NOISE-2).** SDG&E shall implement the following noise-suppression techniques to avoid possible violations of local rules, standards, and ordinances from construction noise:

- Night and ~~weekend~~ 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 ~~weekends~~ 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 ~~variances~~ 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 ~~variances~~ 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

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hours that would exceed local standards without an approved variance 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 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.

Even with mitigation measures in place, construction noise levels would be more than 10 dBA higher than ambient noise levels at the property boundary. This increase in noise levels at the property boundary would result in a significant and unavoidable temporary or periodic increase in noise levels as defined in the Draft EIR. Significant increases in construction noise levels at school buildings include noise levels of approximately 90 dBA at 50 feet (Park Village Elementary School, Alternative 3), 75 dBA at 110 feet (The Kids Bay Learning Center, Proposed Project) and 73 dBA at 140 feet (California Miramar University, Alternative 5). Noise levels are anticipated to be approximately 15 to 20 dBA quieter when inside a building with the windows closed. Outdoor noise from project construction would be approximately 56 dBA at a distance of 1,000 feet. Construction noise would generally not be distinguishable from daytime ambient noise at distances farther than 3,000 feet.

#### Safety

##### Hazardous Materials

Commenters were concerned about safety and potential exposure to excessive pollutant concentrations or hazardous materials and substances during construction of the Proposed

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Project. Potential pollutant concentrations and hazardous materials and substances emitted as a result of the Proposed Project are discussed further in Section 4.11: Hazards and Hazardous Materials, Impact Hazards-3 of the Draft EIR. Schools would not be subject to substantial pollutant concentrations as a result of the Proposed Project or an alternative because:

(a) emissions of volatile organic compounds and PM<sub>2.5</sub> would not exceed air quality standards and (b) construction work near schools would occur for only a few days. While spills of hazardous materials near schools are unlikely, a spill of hazardous materials such as equipment fuels during project construction, and subsequent transport of the spilled hazardous materials onto school property would be a significant hazard. SDG&E would implement APM HAZ-1 and HYDRO-1 which require a safety and environmental awareness program and temporary water quality best management practices to reduce impacts. Mitigation Measures Hazards-2 and Hazards-3 would further reduce impacts on schools from spilled hazardous materials by requiring preparation and implementation of a Spill Prevention, Control, and Countermeasure Plan and a Hazardous Substance Control and Emergency Response Plan which would require clean up and proper disposal of any spilled hazardous materials. There would be no transport of hazardous materials onto school property after mitigation because all hazardous materials would be contained, cleaned up and properly disposed of.

#### **Traffic Safety and Emergency Vehicles**

It is recognized that schools have a particularly high need for emergency access. Emergency access on all roads including access to school facilities is addressed in the Draft EIR (refer to Section 4.7.8, Impact Traffic-5). Mitigation Measure Traffic-1 requires use of temporary detours to redirect traffic during any temporary lane or road closures. Mitigation Measure Traffic-6 requires that SDG&E provide access to driveways through the use of steel plates over temporary trenches. Mitigation Measure Traffic-7 requires temporary pedestrian access through detours or safe areas where there are temporary sidewalk closures. Mitigation Measure Traffic-8 requires notification of emergency personnel at least one week prior to lane or road closures. These mitigation measures would ensure that emergency personnel have uninterrupted access to schools.

Commenters were also concerned about temporary sidewalk and/or bike lane closures during construction and impacts on traffic safety near schools. Mitigation Measure Traffic-7 requires notification and provisions of detours or safe areas to allow temporary pedestrian and bike access through construction areas. This mitigation measure would allow for safe access to schools during underground construction on bike lanes adjacent to the school. Impacts on children, staff, and faculty safety from temporary sidewalk and/or bike lane closures would be less than significant with mitigation.

#### **Traffic**

Concerns regarding traffic near schools include increased congestion from construction activities and equipment on already busy roads during school pick-up and drop-off times and road or lane closures or disruption to access during underground transmission line construction adjacent to school access points. Traffic accessibility is addressed in Section 4.7: Transportation and Traffic of the Draft EIR. Underground construction and temporary lane closures may result

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in delays; however, Mitigation Measures Traffic-1 and Traffic-6 apply restrictions and requirements to ensure access for emergency vehicles as well as the public:

1. Traffic control personnel and flaggers will maintain access for emergency vehicles (Mitigation Measure Traffic-1).
2. SDG&E is required to coordinate with schools prior to any lane or road closure within 1,000 feet of school property and to avoid underground construction adjacent to the school during peak drop-off and pick-up times (see General Response GR-12 for revisions to Mitigation Measure Traffic-6).
3. Lane closures are not permitted from 6 AM to 9:30 AM and 3:30 PM to 6:30 PM (Mitigation Measure Traffic-6)
4. SDG&E must maintain access to the school through the use of steel plates to cover temporary trenches when active construction is not occurring. Steel plating shall be used to cover underground work areas during lane closures to ensure access to the roadways (Mitigation Measure Traffic-6).

Impacts on traffic near schools would be less than significant with mitigation.

#### **GR-10 Fire Risk**

Concerns regarding the risk of wildfire were raised by many commenters, particularly those individuals who live along the Alternative 3 route. This response is intended to respond to concerns from all individuals along the Proposed Project and alternative routes. Refer to Section 4:12: Fire and Fuels Management of the Draft EIR for a detailed discussion of the risk of wildfire.

Construction activities that could result in a wildland fire include operation of construction equipment with combustion engines, operation of rock striking equipment, helicopter operations, and worker smoking (refer to Section 4.12.7 of the Draft EIR for further details). Sparks from construction equipment or improper disposal of cigarettes could ignite a fire, which could escape initial attack containment and become a catastrophic fire particularly in areas with heavy fire fuels and high exposure to Santa Ana winds. APMs FIRE-1 and PS-6 would reduce the risk of igniting a wildfire through adherence to a draft Project-specific Fire Prevention Plan and fire patrol monitoring. Mitigation Measures Fire-1, Fire-2, Fire-3, and Fire-4 would reduce impacts to less than significant by requiring SDG&E to:

- Finalize and adhere to a project-specific Fire Prevention Plan;
- Coordinate with fire protection and emergency service providers;
- Ensure construction equipment and personnel would not create obstructions to firefighting equipment or crews;
- Stage water trucks and/or water tanks such that they would be available for fire suppression during construction; and
- Establish adequate conductor vegetation clearances prior to energizing conductors.

In the event of a wildfire, roadways would be made available for evacuation. Mitigation Measure Traffic-8 requires SDG&E to provide advance notice to emergency service providers

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prior to any road closure and Mitigation Measure Traffic-6 requires that SDG&E provide access out of any driveway, residential community, or commercial at all times during construction. In the event of an emergency, SDG&E would cease construction activities, cover any open trenches, and open all roadways in the area to evacuating traffic. Refer to General Response GR-12 and revisions to Mitigation Measure Traffic-6, which clarify the requirements for emergency evacuation.

Vegetation clearing and grading activities for construction of the overhead transmission line could indirectly result in the introduction and spread of non-native, invasive plants in open space wildlands. Implementation of Mitigation Measures Biology-1 and Biology-4 require protocols to monitor and prevent invasive species introductions and spread and require revegetation of temporarily impacted areas with appropriate native species. These mitigation measures reduce the potential introduction and proliferation of invasive non-native plant species because the non-native plant species would be monitored and removed as needed to match pre-project conditions.

Required vegetation clearances around poles and conductors would be maintained during operation of the transmission line to reduce fire risk. These clearances include vegetation removal within a 10-foot radius around the power poles and vegetation or tree trimming to maintain proper clearances underneath the transmission conductors. Necessary minimum clearances are specified by the CPUC in General Order 95.

The proposed 230-kV transmission line could be a potential source for ignition of a wildland fire during operation. However, distribution and lower-voltage power lines are more likely to cause a wildland fire than higher-voltage lines like the proposed 230-kV transmission line. The energized conductors on distribution and lower-voltage power lines are much closer together (as close as 2 feet) compared with conductors on higher-voltage transmission lines (18 to 21 feet for 230-kV, depending on structure type). Fallen or windblown tree limbs and debris can more easily come into contact with and bridge two distribution conductor phases, potentially resulting in electrical arcs that may set fire to woody debris. Because higher voltage (i.e., 230-kV) transmission line conductors are spaced much further apart, this phenomenon is extremely rare.

Alternatives 3, 4, and 5 consist of mostly underground transmission lines. The risk of fires during operation of underground transmission lines is negligible. Maintenance activities would be conducted within paved roadways according to SDG&E maintenance standards. Within paved roadways, there are no fuel sources (i.e., dry vegetation) to feed a fire. Because each conductor is encased within its own pipe in the duck bank, there is no potential for arcing (sparking) between conductors. The risk of fire from maintenance of underground lines is therefore minimal.

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#### **GR-11 Modification to Alternative 4: Suggestions to Locate the 69-kV Power Lines and/or the Proposed Project 230-kV Transmission Line Underground along the Alternative 4 Route**

Eighty-six individuals suggested modifying Alternative 4 to include both existing 69-kV power lines and the Proposed Project 230-kV transmission line underground along the Alternative 4 alignment. Another commenter (comment C49-3) suggested installing the 230-kV transmission line underground in lieu of the 69-kV power lines along the Alternative 4 alignment. This general response provides information on the following:

- CEQA requirements for consideration of alternatives
- Modification of Alternative 4 to install the existing 69-kV power lines and the Proposed Project 230-kV transmission line underground along the Alternative 4 alignment
- Modification of Alternative 4 to install only the Proposed Project 230-kV transmission line underground along the Alternative 4 alignment

#### **CEQA Requirements for Consideration of Alternatives**

CEQA Guidelines Section 15126.6(a) requires the consideration and discussion of alternatives to a proposed project that “would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.” Alternative 4 (undergrounding of the 69-kV power lines only) was analyzed in the Draft EIR because it would avoid significant impacts associated with construction of new structures along the majority of Proposed Project Segment D (refer to Chapter 6: Comparison of Alternatives) while still meeting basic project objectives. Specifically, Alternative 4 would avoid the significant and unavoidable impact to visual character imposed by installation of new TSPs within Segment D. Alternative 4 would also avoid the cumulatively considerable contribution to significant and unavoidable cumulative visual impacts from construction of both the Proposed Project and the Mission—Peñasquitos 230-kV transmission line project because Alternative 4 would avoid installation of the new TSPs. Alternative 4 would reduce significant temporary noise impacts in Segment D by reducing the use of helicopters along Segment D. Alternative 4 also would reduce significant impacts on the recreational value of Los Peñasquitos Canyon Preserve by avoiding installation of new TSPs.

#### **Modification of Alternative 4 to Install the Existing 69-kV Lines and Proposed Project 230-kV Transmission line Underground along the Alternative 4 Alignment**

Commenters suggested that a modification to Alternative 4 to install the existing 69-kV power lines and the Proposed Project 230-kV transmission line underground would serve two purposes: (1) avoid the increase in EMF in Segment D that would occur as a result of Alternative 4, and (2) mitigate for future impacts of the Mission—Peñasquitos 230-kV transmission line project, if that project is approved and constructed along Proposed Project Segment D. The following analysis explains why consideration of this modification to Alternative 4 would not be required under CEQA based on the commenters’ contentions and feasibility of the suggested modification.

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#### **Electromagnetic Fields**

The CPUC does not consider EMF to be an environmental issue in the context of CEQA because: (a) there is no agreement among scientists that EMF creates a potential health risk, and (b) CEQA does not define or adopt standards for defining any potential risk from EMF. A reduction in EMF would not avoid or substantially lessen any of the significant environmental effects of the Proposed Project as required under CEQA Guidelines Section 15126.6(a); therefore, the reduction of EMF does not provide a CEQA basis for analyzing a modification to Alternative 4.

#### **Mitigating Cumulative Impacts of the Proposed Project and the Mission—Peñasquitos 230-kV Transmission Line Project**

There is no CEQA basis for mitigating the impacts of a project not under consideration in the EIR. The Mission—Peñasquitos 230-kV transmission line project, an SDG&E project that will be considered by the CPUC once an application is submitted, is not part of the Proposed Project. Rather, the Mission—Peñasquitos project is a separate future project and was analyzed as a cumulative project in the Draft EIR as required by CEQA Guidelines Section 15130(b)(1)(A). If an EIR concludes that the Proposed Project in combination with other, related projects would result in a significant cumulative impact, the lead agency only has the authority to require mitigation for a project's incremental contribution to that cumulative impact, not for the entire cumulative impact or for the relative contribution of other, related projects. In this case, the CPUC only has the authority to impose mitigation for the Proposed Project's incremental contribution to the significant and unavoidable impacts on aesthetics and noise from construction of both the Proposed Project and the Mission—Peñasquitos project; the CPUC cannot require mitigation for impacts of the future Mission—Peñasquitos project. The suggested modification to Alternative 4 would not reduce the Proposed Project's contribution to significant cumulative impacts, it would only reduce the total cumulative impact or the Mission—Peñasquitos Project's contribution to cumulative impacts. Consistent with CEQA, the Draft EIR identifies mitigation to reduce or avoid the significant impacts of the Proposed Project and alternatives only (PRC § 21004; CEQA Guidelines Sections 15004, 15126.4(a)(4)).

#### **Technological Infeasibility**

The CPUC requested that SDG&E evaluate the technological feasibility of installing both the 69-kV and 230-kV lines underground in Segment D as a modification to Alternative 4. SDG&E conducted a preliminary feasibility study and determined that underground construction of both lines in Segment D would not be technologically feasible because there is "limited space within the box girder bridge located along Carmel Mountain Road" near the intersection with Timber Brook Lane (SDG&E 2016b; NV5 2016). The bridge currently contains one 12-kV distribution line, which would be relocated in order to install any new lines within the bridge. Under Alternative 4, the two 69-kV power lines could be located within the bridge; however, there is insufficient space to also locate a 230-kV transmission line because the 230-kV line would require a greater number and larger ducts than two 69-kV lines (installation of the 230-kV line would require six 8-inch ducts and four 2-inch ducts whereas installation of the two 69-kV lines would require six 6-inch ducts and one 4-inch duct). The CPUC evaluated the

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bridge configuration and existing utility information provided by SDG&E and determined it would not be technologically feasible to place both the 69-kV and 230-kV lines within the bridge or in a bridge attachment.

#### **Conclusion Regarding Option of Installing Both 69-kV Power Lines and the 230-kV Transmission Line Underground along the Alternative 4 Alignment**

The option of installing the 69-kV power lines and the 230-kV transmission line underground along the Alternative 4 alignment has not been carried forward for analysis in the Final EIR because this option is not technologically feasible and does not meet CEQA's criteria for consideration of alternatives.

#### **Modification of Alternative 4 to Install Only the Proposed Project 230-kV Transmission Line Underground along the Alternative 4 Alignment**

One commenter (comment C49-3) suggested underground construction of the 230-kV transmission line in lieu of the 69-kV power lines along the Alternative 4 alignment. The location of this option would be the same as Alternative 4 analyzed in the Draft EIR. The option meets CEQA criteria for consideration of alternatives because it would avoid significant corona noise, aesthetic, and biological resource impacts in Segment D and would avoid the Proposed Project contribution to significant noise and aesthetic impacts in combination with the Mission—Peñasquitos transmission line.

#### **Technological Infeasibility**

The CPUC requested that SDG&E investigate the technological feasibility of installing only the Proposed Project 230-kV transmission line underground along the Alternative 4 alignment (instead of the 69-kV lines). SDG&E determined that it would be technologically infeasible to install the 230-kV transmission line underground within the Alternative 4 alignment because the bridge on Carmel Mountain Road acts as a pinch-point where there is inadequate space available in the bridge cells to accommodate the 230-kV transmission line and existing utility infrastructure. The 230-kV transmission line also could not be attached to the bridge as an overhang because the attachment process would affect the structural integrity of the bridge. The CPUC reviewed the engineering information presented by SDG&E and concurred that it would be infeasible to install the 230-kV transmission line underground within the bridge or attached to the bridge.

#### **Conclusion Regarding Option of Installing the 230-kV Transmission Line Underground along the Alternative 4 Alignment**

The option of installing the 230-kV transmission line underground along the Alternative 4 alignment is not technologically feasible and therefore does not meet CEQA's criteria for evaluation of alternatives. The alternative was rejected from further consideration in the Final EIR.



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#### GR-12 Impacts on Emergency Evacuation Routes

Commenters expressed concerns regarding temporary road and lane closures potentially encumbering evacuation from homes and communities in the event of an emergency, such as during a wildfire.

#### Underground Transmission Line Construction

Underground transmission line construction would result in lane closures during duct bank construction, vault installation and wire pulling for the Proposed Project and project alternatives. As analyzed in the Draft EIR under Section 4.7: Transportation and Traffic, Impact Traffic-5, temporary road and lane closures as a result of open trenching and conductor and vault installation during construction of the Proposed Project or project alternatives could restrict emergency access particularly during an evacuation. As discussed under Section 4.11.8, Impact Hazards-7 of the Draft EIR, road closures would be cancelled due to a nearby fire or other emergency. Mitigation Measure Traffic-6 requires maintenance of access to driveways at all times by placing steel plates over open trenches. SDG&E must also notify residents of temporary lane or road closures seven days prior to the closure and provide detours around construction areas. Specific to Alternative 3, implementation of Mitigation Measure Traffic-11 would ensure one lane along Park Village Road west of Celata Lane would remain open during vault installation. In response to the comments and as mentioned under Hazards-7, the following language has been added to Mitigation Measure Traffic-6 to ensure that access to residences and schools is permitted in the event of an emergency:

#### **Mitigation Measure Traffic-6: Restrict Road Closures and Maintain Access.**

SDG&E shall restrict all necessary lane closures or obstructions ~~on major roadways~~ associated with overhead or underground construction activities to off-peak periods to reduce traffic delays. Lane closures must not occur between 6 AM and 9:30 AM and between 3:30 PM 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 ~~within at least~~ 7 days ~~of 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

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equipment shall be removed from the partially or fully closed roadways, as needed, to permit uninterrupted traffic flow.

#### Overhead Transmission Line Construction

Stringing conductors across SR-56 and I-15 may result in temporary highway closures during construction of the Proposed Project and project alternatives, if required by terms in the Caltrans encroachment permit. The duration of closure would likely be a couple of hours and the closure would likely occur on a weekend in the early morning. The actual timing of any highway closure would be determined by Caltrans. As analyzed in the Draft EIR in Section 4.7: Transportation and Traffic, Impact Traffic-5, temporary highway closures as a result of overhead stringing during construction of the Proposed Project or project alternatives could restrict emergency access particularly during an evacuation. In response to the comments, the following language has been added to Mitigation Measure Traffic-5 to ensure that use of the highway is not obstructed in the event of an emergency evacuation:

**Mitigation Measure Traffic-5: Highway Closure Plans.** 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.

The Proposed Project and alternatives include use of crossing guards along the edge of all roadways to avoid temporary closure of local roads during conductor stringing. It is unlikely that local roads would be closed during overhead stringing; however, there may be specific circumstances where, due to large spans or topography, a crossing guard may not be sufficient to protect traffic safety and the roadways may need to be closed for stringing of overhead conductors. The duration of closure due to overhead stringing would be approximately half an hour or less. Due to the low likelihood of roadway closures and the short duration of closure, the impact on emergency evacuation would be less than significant.

#### GR-13 Traffic Impacts

Commenters expressed concerns regarding increased traffic congestion during construction particularly in areas with temporary lane and road closures.

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#### **Traffic Impact Analysis**

The construction traffic impacts were analyzed using worst case scenario assumptions. The traffic analysis assumed that the maximum number of construction trips that could be generated by the Proposed Project would be staged out of one staging yard because SDG&E has not defined which staging yards would be used for which construction activities. The assumption that all construction activities would occur out of single staging yard is conservative. It is likely that multiple staging yards would be used during construction and construction vehicle traffic would be dispersed on area roads along the alignment rather than directed down a single road. Conservative assumptions were used in the Draft EIR traffic analysis to account for uncertainty in the construction approach and availability of staging yards at the time of construction and to ensure that impacts would not be understated.

#### **Traffic Congestion**

The construction traffic from the Proposed Project and project alternatives would not cause any road segment that is currently meeting LOS standards to fall below the standard (refer to Draft EIR Section 4.7: Transportation and Traffic, Impacts Traffic-1 and Traffic-2 for further details). The traffic volume data and LOS for local roads under existing conditions and during construction of the Proposed Project and project alternatives are presented in Appendix M: Transportation and Traffic Support Information of the Draft EIR. The majority of local roads would not be significantly impacted by the increase in traffic congestion from construction vehicles and equipment because most roads in the Proposed Project area have adequate capacity to manage the additional temporary construction traffic resulting from the Proposed Project or a project alternative.

The construction traffic from implementation of the Proposed Project and project alternatives would have a significant and unavoidable impact on highways and roads where the Proposed Project or alternative would result in a decline in the volume to capacity ratio of 0.02 or greater for roadways operating at LOS E and 0.01 or greater for roadways operating at LOS F. Construction traffic from the Proposed Project and project alternatives would also have a significant and unavoidable impact on highways and roads where the Proposed Project or alternatives would cause a substantial increase in the peak traffic volume of Caltrans facilities not meeting the standard of LOS E. Mitigation Measure Traffic-1 requires SDG&E personnel to use alternative traffic routes and provide carpool or shuttle opportunities to avoid roads that are operating at LOS D or lower; however, impacts would remain significant and unavoidable for the Proposed Project and alternatives from use of SR-56 and for Alternative 5 on Pomerado Road, even with the implementation of Mitigation Measure Traffic-1.

#### **Road and Lane Closures**

Temporary highway, road, and lane closures from overhead and underground construction could significantly disrupt traffic flow if the temporary lane or road closures were to occur during peak traffic hours. Refer to Section 4.7: Transportation and Traffic, Impact Traffic-7 of the Draft EIR for further details on the impacts on traffic flow. Mitigation Measure Traffic-5 would reduce impacts on traffic flow from temporary closure of I-15 and SR-56 during overhead conductor stringing by limiting the closure to non-peak hours from 10 PM to 5 AM

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(applies to Proposed Project and Alternative 5 only). Mitigation Measure Traffic-6 would reduce impacts from underground construction by limiting the construction period. Lane and roadway closures would generally not occur during peak hours from 6 AM to 9:30 AM and 3:30 PM to 6:30 PM, limiting congestion as a result of construction traffic during times of high traffic volume. The impact on traffic flow during peak traffic hours would be reduced to less than significant because the timeframe for road and lane closures would avoid peak traffic hours.

#### **GR-14 De-Energized Poles and Lines in Alternative 4**

A few commenters requested the removal of H-frame structures that would remain in Segment D after construction of Alternative 4. This general response provides a rationale for why the H-frame structures could not be removed as part of Alternative 4. Under Alternative 4, one 69-kV power line would be removed from existing lattice steel towers along Proposed Project Segment D to create a position for the Proposed Project 230-kV transmission line. The 69-kV power line located on the adjacent wooden H-frame structures would be de-energized, but would remain in place in Segment D. Two new 69-kV power lines would be installed underground within Carmel Mountain Road and East Ocean Air Drive.

As stated by SDG&E in Partial Response #1 to Data Request #10 (SDG&E 2015b):

The H-frame structures are an existing asset to SDG&E and its ratepayers and are more valuable in place than being removed. Keeping the existing H-frame structures would eliminate any ground disturbance at the existing H-frame locations.

In addition, the 69-kV power line and wooden H-frame structures would not be removed from Segment D because the existing structures and de-energized line could provide a back-up source of power that could be used in emergencies. Keeping the H-frame structures in place would avoid several environmental impacts that would occur as a result of their removal. Avoiding ground disturbance would prevent impacts on any biological and cultural resources at structure locations. It would also avoid noise from construction equipment and erosion impacts associated with excavation.

The CPUC cannot require SDG&E to remove the H-frame structures and de-energized power line through Alternative 4. It is outside of the scope of the project to do improvement work to the existing power lines (i.e., remove poles and structures that would no longer carry energized lines). Removal of the H-frame structures would not help accomplish project objectives. Because the structures are an existing feature and would not be modified as a result of Alternative 4, the structures do not result in any new impacts that require mitigation. The CPUC cannot require removal of the structures under CEQA because the CPUC cannot require a project applicant to mitigate the existing environmental condition.

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#### GR-15 Access Roads

USFWS, CDFW, CCC, and SDG&E commented on the impacts from use of access roads. SDG&E also filed project refinements in its comments on the Draft EIR. The discussion below addresses:

- The methodology used to calculate access road impacts in the Draft EIR
- The methodology used to calculate access road impacts in the Final EIR
- The changes to project impact calculations as a result of SDG&E's proposed work space refinements

#### Draft EIR Access Road Impacts Methodology

Existing access road locations and lengths were derived from the GIS data submitted by SDG&E. Three new spur roads were proposed along Segment A. The existing access roads are unpaved and would likely require refreshing and re-establishment prior to construction, as discussed under Section 2.3.4.1 of the Draft EIR. SDG&E indicated that access roads would generally be 12 to 14 feet wide and may be widened up to 20 feet wide around turns to permit large vehicle access. Locations that may require widening were not identified by SDG&E at the time of Draft EIR preparation.

The project access roads were conservatively assumed to be 14 feet wide to account for the greatest width that SDG&E indicated the access roads could be. A 2-foot-wide buffer around access roads was calculated to account for any impacts from refreshing and re-establishment outside the 14-foot-wide maintained road width as well as widening around turns to permit large equipment access. The access road impacts shown in Table 2.3-1 were calculated in the Draft EIR assuming a 14-foot access road width and 2-foot-wide buffer on either side, for a total of 18 feet in width. The Draft EIR estimated access road impacts on habitat by assuming the loss of any habitat located within the 18-foot-wide access roads.

#### Updated Final EIR Access Road Impacts Methodology

SDG&E's Subregional NCCP/HCP assumes that a 14-foot roadway width is maintained for all access roads that existed at the time of the NCCP/HCP certification. In accordance with the NCCP/HCP, activities proposed within the 14-foot wide existing access roads would be considered existing disturbance, i.e., part of the baseline condition, rather than impacts associated with construction and operation of the Proposed Project (Gower 2015). Therefore, refreshing and re-establishment of the 14-foot wide existing access roads would not be a permanent impact resulting from the Proposed Project because those roads are considered disturbed under the baseline condition. The use of existing access roads has been re-classified from permanent disturbance to temporary disturbance in Table 2.3-1 of the Draft EIR because it is recognized that the access roads are an existing feature and there would be no permanent change to the access roads and their use. The Final EIR is revised to only evaluate impacts to vegetation communities within a 2-foot buffer from the 14-foot wide maintained road, as shown in Attachment 5: Summary and Detailed Tables of Vegetation Community Impacts to the Final EIR. Impact acreages for many vegetation communities are reduced. There would be no new

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significant impacts to vegetation communities or a substantial increase in the severity of a previously identified impact as a result of this change.

#### **SDG&E Project Refinements**

SDG&E provided refinements to the proposed work areas around each pole in their comments on the Draft EIR (see Appendix B of SDG&E's comments for the locations of each refined work area). A comparison between the impacts presented in the Draft EIR and the impacts generated using the refined project work areas are shown in Table 3.1-4. The refinements increase permanent impacts by 1.6 acres and reduce temporary impacts by 3.83 acres for a total reduction of 2.35 acres of impacts. The refinements result in a 1 percent overall impact reduction compared to the impact analysis in the Draft EIR.

A summary of the vegetation community impacts presented in the Draft EIR and the refined vegetation community impacts are shown in Attachment 5 of the Final EIR. The Proposed Project refinements would not substantially increase the severity of impacts to vegetation communities or create any new significant impacts to special-status species not previously identified and analyzed in Section 4.1: Biological Resources. The mitigation for impacts to special status species and habitat compensation for loss of sensitive vegetation communities would apply to the Proposed Project refinements and impacts would remain less than significant with mitigation as analyzed in Section 4.1.8 of the Draft EIR.

Table 3.1-5 provides a summary analysis of impacts from the Proposed Project refinements for all CEQA resource categories. The refinements would not result in a new significant impact, or substantially increase the severity of a previously analyzed impact for any resource category. The refinements have not been incorporated into the Final EIR because the Proposed Project refinements would not change the Draft EIR impact analysis. The analysis of vegetation community impacts in the EIR is intended to be conservative to allow flexibility during final siting and design. Final engineering for the Proposed Project, if approved by the CPUC, may further reduce vegetation community impacts from those presented in the Draft EIR or these refinements.

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**Table 3.1-4 Comparison between Draft EIR and SDG&E Refinements for Areas of Temporary and Permanent Project Disturbance**

Proposed Project Component	Disturbance Area (acres) <sup>1, 2</sup>								
	Permanent			Temporary			Total		
	Draft EIR	SDG&E Refined	Change	Draft EIR	SDG&E Refined	Change	Draft EIR	SDG&E Refined	Change
<b>Transmission Line Segments<sup>3, 4</sup></b>									
Segment A	5.1	6.3	+1.23	34.7	32.1	-2.66	39.8	38.4	-1.43
Segment B	--	--	--	6.3	6.3	--	6.3	6.3	--
Segment C	0.2	0.3	+0.04	6.7	6.3	-0.42	6.9	6.5	-0.38
Segment D	1.4	1.6	+0.26	11.7	11.2	-0.48	13.0	12.8	-0.22
<i>Subtotal</i>	<i>6.7</i>	<i>8.2</i>	<i>+1.53</i>	<i>59.4</i>	<i>55.8</i>	<i>-3.56</i>	<i>66.0</i>	<i>64.0</i>	<i>-2.03</i>
<b>Line Configuration Locations</b>									
Encina Hub	--	--	--	2.6	2.6	--	2.6	2.6	--
Mission – San Luis Rey Phase Transposition (North)	--	--	--	0.9	0.9	--	0.9	0.9	--
Mission – San Luis Rey Phase Transposition (South)	--	--	--	0.7	0.7	--	0.7	0.7	--
<i>Subtotal</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>4.2</i>	<i>4.2</i>	<i>--</i>	<i>4.2</i>	<i>4.2</i>	<i>--</i>
<b>Access Roads</b>									
Existing Access Roads <sup>5</sup>	--	--	--	36.6	36.8	+0.22	36.6	36.8	+0.22
Existing Access Road Improvements <sup>6</sup>	10.6	10.6	+0.05	--	--	--	10.6	10.6	+0.05
Temporary Access Roads and Passing <sup>7</sup>	--	--	--	0.4	0.4	+0.04	0.4	0.4	+0.04
<i>Subtotal</i>	<i>10.6</i>	<i>10.6</i>	<i>+0.05</i>	<i>0.4</i>	<i>0.4</i>	<i>+0.26</i>	<i>47.6</i>	<i>47.8</i>	<i>+0.32</i>
<b>Staging Yards</b>									
Camino Del Sur <sup>8</sup>	--	--	--	2.3	2.3	--	2.3	2.3	--
Carmel Valley Road	--	--	--	7.2	7.2	--	7.2	7.2	--
Evergreen Nursery <sup>9</sup>	--	--	--	3.5	3.5	--	3.5	3.5	--
State Route 56 (SR-56)	--	--	--	12.4	12.4	--	12.4	12.4	--
Stonebridge	--	--	--	4.0	4.0	--	4.0	4.0	--
Stowe	--	--	--	3.6	3.6	--	3.6	3.6	--
<i>Subtotal</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>32.9</i>	<i>32.9</i>	<i>--</i>	<i>32.9</i>	<i>32.9</i>	<i>--</i>

### 3 COMMENTS AND RESPONSES

Proposed Project Component	Disturbance Area (acres) <sup>1, 2</sup>								
	Permanent			Temporary			Total		
	Draft EIR	SDG&E Refined	Change	Draft EIR	SDG&E Refined	Change	Draft EIR	SDG&E Refined	Change
<b>Storage at Existing Substations<sup>10</sup></b>									
Mission Substation	--	--	--	8.7	8.7	--	8.7	8.7	--
Peñasquitos Substation	--	--	--	12.7	12.7	--	12.7	12.7	--
San Luis Rey Substation	--	--	--	10.3	10.3	--	10.3	10.3	--
Sycamore Canyon Substation	--	--	--	10.6	10.6	--	10.6	10.6	--
<i>Subtotal</i>	--	--	--	42.3	42.3	--	42.3	42.3	--
<b>Project Total</b>	<b>17.3</b>	<b>18.8</b>	<b>+1.6</b>	<b>175.8</b>	<b>172.4</b>	<b>-3.83</b>	<b>193.0</b>	<b>191.2</b>	<b>-2.35</b>

- <sup>1</sup> Based on preliminary engineering. Estimates may change based on final design and construction.
- <sup>2</sup> Overlapping areas were removed to avoid double-counting impact acreage (e.g., if a staging yard or structure access site intersected with a stringing site area).
- <sup>3</sup> Permanent disturbance would occur at proposed structure pad locations (including retaining walls) and splice vault covers. Structure pads include any spur roads that would be constructed to structure locations.
- <sup>4</sup> Temporary disturbance would occur at all other work areas including staging yards, laydown areas, structure installation and removal sites, line configuration sites, stringing sites, and guard structure sites. Temporary disturbance areas include existing developed or paved areas within substations.
- <sup>5</sup> The NCCP baseline roadway defined existing access road widths as 14 feet. Use of existing access roads is classified as a temporary impact in the Final EIR.
- <sup>6</sup> Permanent impacts are anticipated when existing access roads are reestablished and "refreshed" prior to construction. To conservatively account for potential permanent impacts, existing access road improvements were determined using an additional 2-foot buffer around all existing 14-foot access roads, which accounts for potential widening as a result of construction activities. The impacts within that 2-foot buffer are considered permanent.
- <sup>7</sup> Temporary impacts include the temporary access roads required to access P20 and P21 and avoid road rut vernal pools in the areas of P45 and P46. Temporary impacts also include passing areas for large machinery and vehicles. This acreage was previously included in temporary impacts.
- <sup>8</sup> The area identified for the Camino Del Sur Staging Yard on all figures in this EIR is 11.7 acres; however, SDG&E would only use 2.3 acres of the site for staging. Depending upon site availability at the time of construction between the Camino Del Sur and Carmel Valley Road staging yards, SDG&E may use the anticipated 2.6 acres assigned to the Camino Del Sur Staging Yard at the Carmel Valley Road site. However, the total impact area and habitat type impacted (non-native grassland) would not change from what is described herein.
- <sup>9</sup> The area identified for the Evergreen Nursery Staging Yard on all maps in this EIR is 27.8 acres; however, SDG&E would only use 3.5 acres of the site for staging.
- <sup>10</sup> For existing SDG&E substations where construction staging may occur, the entire substation footprint is included in the acreage listed above; however, actual staging acreages would be a smaller portion of each substation. These existing SDG&E substations are previously developed facilities that would not require site preparation to utilize them for temporary storage of materials or equipment. Construction personnel would take direction from SDG&E substation operations on specifically where materials could be temporarily staged within each substation.



### 3 COMMENTS AND RESPONSES

**Table 3.1-5 Proposed Project Refinement Impacts**

Would the Proposed Project refinements result in a new impact, or increase the severity of a previously analyzed impact to:	No	Yes
<p><b>Biological Resources (e.g., have an adverse effect on sensitive or special-status species; impact riparian, wetland, or any other sensitive habitat; or conflict with local policies or ordinances protecting biological resources)?</b></p> <p><i>Draft EIR Significance: Less than Significant with Mitigation</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Summary of Proposed Project Refinement Impacts on Biological Resources:</b></p> <p>The Proposed Project refinements would increase permanent impacts by 0.61 acre and reduce temporary impacts by 2.15 acres. The refinements would result in an overall reduction in impacts to vegetation communities by 1.42 acres, or 4 percent, compared to the Proposed Project work areas considered in the Draft EIR. A detailed breakdown of the impacts from Proposed Project refinements on vegetation communities are presented in Attachment 5: Summary and Detailed Tables of Vegetation Community Impacts of the Final EIR. The reductions in vegetation community impacts associated with the Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on biological resources.</p>		
<p><b>Aesthetics (e.g., damage scenic resources or vistas, degrade the existing visual character of the site and its surroundings, or create sources of light or glare)?</b></p> <p><i>Draft EIR Significance: Significant and Unavoidable</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Summary of Proposed Project Refinement Impacts on Aesthetics:</b></p> <p>The Proposed Project refinements would not change the number or type of new poles, transmission lines, marker balls, or retaining walls. The physical elements of the Proposed Project that would result in significant aesthetic impacts would remain the same with the Proposed Project refinements. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on aesthetics.</p>		
<p><b>Cultural Resources (e.g., cause an adverse change to a significant historical or archeological resource)?</b></p> <p><i>Draft EIR Significance: Less than Significant with Mitigation</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Summary of Proposed Project Refinement Impacts on Cultural Resources:</b></p> <p>The Proposed Project refinements would reduce ground disturbance and the associated potential to encounter a cultural resource by 2.35 acres. No cultural resources have been recorded within the Proposed Project refinement areas. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on cultural resources.</p>		
<p><b>Paleontological Resources (e.g., cause an adverse change to a significant paleontological resource)?</b></p> <p><i>Draft EIR Significance: Less than Significant with Mitigation</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Summary of Proposed Project Refinement Impacts on Paleontological Resources:</b></p> <p>The Proposed Project refinements would reduce ground disturbance and the associated potential to encounter a paleontological resource by 2.35 acres. No paleontological resources have been recorded within the Proposed Project refinement areas. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on paleontological resources.</p>		

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Would the Proposed Project refinements result in a new impact, or increase the severity of a previously analyzed impact to:	No	Yes
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<b>Geology and Soils (e.g., cause or expose people or structures to geologic or soil hazards, including erosion or loss of topsoil)?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*Draft EIR Significance: Less than Significant with Mitigation*

**Summary of Proposed Project Refinement Impacts on Geology and Soils:**

The Proposed Project refinements would reduce ground disturbance and associated impacts on erosion by 2.35 acres. The Proposed Project refinements would occur in areas with the same underlying geologic and soil units as the Proposed Project analyzed in the Draft EIR. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on geology and soils.

<b>Hydrology and Water Quality (e.g., degrade water quality, discharge waste or sediment, deplete groundwater, alter the existing drainage pattern, create additional runoff water or polluted runoff, place structures in a 100-year flood hazard area, or expose people or structures to a significant risk involving flooding)?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*Draft EIR Significance: Less than Significant with Mitigation*

**Summary of Proposed Project Refinement Impacts on Hydrology and Water Quality:**

The Proposed Project refinements would reduce ground disturbance and associated water quality impacts from erosion by 2.35 acres. The Proposed Project refinements would occur within the same watersheds as the Proposed Project and would impact the same water resources as the Proposed Project. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on hydrology and water quality.

<b>Transportation and Traffic (e.g., increase traffic congestion or degrade performance of the circulation system, taking into account all modes of transportation, or increase hazards due to a design feature)?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*Draft EIR Significance: Significant and Unavoidable*

**Summary of Proposed Project Refinement Impacts on Transportation and Traffic:**

The Proposed Project refinements would not change the roadways used to access project work areas or the number of vehicles required to construct or maintain the project. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on transportation and traffic.

<b>Noise (e.g., expose sensitive receptors to additional noise or vibration)?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*Draft EIR Significance: Significant and Unavoidable*

**Summary of Proposed Project Refinement Impacts on Noise:**

The Proposed Project refinements would slightly adjust the Proposed Project work areas; however, the refinements would not affect the distance between construction activities and the nearest sensitive receptors or change the equipment that would be used during construction. The calculated construction noise levels presented in the Draft EIR are not affected by the Proposed Project refinements. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on noise.

<b>Land Use and Planning (e.g., conflict with a land use plan, policy, or regulation of an agency with jurisdiction over the project, or conflict with a habitat conservation plan)?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*Draft EIR Significance: No Impact*

**Summary of Proposed Project Refinement Impacts on Land Use and Planning:**

The Proposed Project refinements would occur in areas with the same underlying land uses as the Proposed Project work areas analyzed in the Draft EIR. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on land use and planning.

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Would the Proposed Project refinements result in a new impact, or increase the severity of a previously analyzed impact to:	No	Yes
<b>Recreation (e.g., increase the use of, or cause adverse effects on, parks or other recreational facilities)?</b> <i>Draft EIR Significance: Significant and Unavoidable</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impact on Recreation:</b> The Proposed Project refinements would involve the same activities and project facilities in the same recreational areas analyzed in the Draft EIR. The Proposed Project refinements would not affect the duration of activities within recreational areas. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on recreation.		
<b>Hazards and Hazardous Materials (e.g., create or increase the exposure of people or structures to hazardous materials, involve the use of additional hazardous materials or equipment, or interfere with an adopted emergency plan)?</b> <i>Draft EIR Significance: Less than Significant with Mitigation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Hazards and Hazardous Materials:</b> The Proposed Project refinements would not affect the types of equipment and hazardous materials that would be used during construction and operation. The refinements do not occur in known hazardous materials sites. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on hazards and hazardous materials.		
<b>Fire and Fuels Management (e.g., create or increase the exposure of people or structures to wildland fires)?</b> <i>Draft EIR Significance: Less than Significant with Mitigation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Fires and Fuels Management:</b> The Proposed Project refinements would occur in areas with the same fire risk as the Proposed Project work areas. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on fires and fuels management.		
<b>Air Quality (e.g., produce criteria air pollutant emissions, or expose sensitive receptors to additional pollutants)?</b> <i>Draft EIR Significance: Less than Significant with Mitigation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Air Quality:</b> The Proposed Project refinements would reduce ground disturbance by 2.35 acres. The reduction in disturbance area would result in a minor reduction in fugitive dust emissions. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on air quality.		
<b>Greenhouse Gases (e.g., produce greenhouse gas emissions)?</b> <i>Draft EIR Significance: Less than Significant with Mitigation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Greenhouse Gases:</b> The Proposed Project refinements would not affect the types or numbers of equipment required or the intensity of equipment activity for Proposed Project construction or maintenance. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on greenhouse gases.		

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Would the Proposed Project refinements result in a new impact, or increase the severity of a previously analyzed impact to:	No	Yes
<b>Agriculture and Forestry Resources (e.g., convert Farmland to nonagricultural use, or create a conflict with existing agricultural zoning or a Williamson Act)?</b> <i>Draft EIR Significance: Less than Significant with Mitigation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Agriculture and Forestry Resources:</b> The Proposed Project refinements do not occur in an area with agricultural or forestry uses. The underlying land use and zoning in the Proposed Project refinement areas is the same as the Proposed Project area. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on agriculture or forestry resources.		
<b>Population and Housing (e.g., induce population growth or displace housing)?</b> <i>Draft EIR Significance: Less than Significant</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Population and Housing:</b> The Proposed Project refinements would not occur in an area with housing and would not displace any housing or cause population growth. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on population and housing.		
<b>Utilities and Public Services (e.g., result in the construction of new or expansion of existing water or stormwater drainage facilities, require additional water entitlements, create new solid waste disposal needs, or result in adverse impacts on government facilities that provide a public service)?</b> <i>Draft EIR Significance: Less than Significant with Mitigation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Summary of Proposed Project Refinement Impacts on Utilities and Service Systems:</b> The utilities within the Proposed Project refinement areas were previously analyzed in the Draft EIR. Potential conflicts with underlying or neighboring utilities would be consistent with the analysis in the Draft EIR. The Proposed Project refinements would not result in a new impact or increase the severity of a previously analyzed impact on utilities and public services.		