

CHAPTER 5

Comparison of Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the Proposed Project and the alternatives evaluated in this EIR. This comparison is based on the assessment of environmental impacts of the Proposed Project and each alternative, as identified in Sections 4.1 through 4.15. Chapter 2 introduces and describes the Proposed Project. Chapter 3 introduces and describes the alternatives considered in this EIR.

Section 5.1 describes the methodology used for comparing alternatives. Section 5.2 summarizes the environmental impacts of the Proposed Project and the alternatives. Section 5.3 defines the Environmentally Superior Alternative, based on comparison of each alternative with the Proposed Project. Section 5.4 presents a comparison of the No Project Alternative with the alternative that is determined in Section 5.3 to be environmentally superior.

5.1 Comparison Methodology

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

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6[d], Evaluation of Alternatives, which states that:

“The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the proposed project as proposed.”

If the Environmentally Superior Alternative is the No Project Alternative, CEQA requires identification of an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

The following methodology was used to compare alternatives in this EIR:

- Step 1: Identification of Alternatives.** An alternatives screening process (described in Chapter 3) was used to identify approximately 11 alternatives to the Proposed Project. That screening process identified three alternatives for detailed EIR analysis. Each of the alternatives consists of alignment variations. A No Project Alternative was also identified. No other feasible alternatives meeting the basic project objectives were identified that would lessen or alleviate significant impacts.
- Step 2: Determination of Environmental Impacts.** The environmental impacts of the Proposed Project and alternatives were identified in Sections 4.1 through 4.15, including the potential impacts of construction and operation.
- Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the Proposed Project were compared to those of each alternative to determine the Environmentally Superior Alternative. The Environmentally Superior Alternative was then compared to the No Project Alternative.

Although this comparison focuses on the 15 issue areas (described in Sections 4.1 through 4.15), determining an Environmentally Superior Alternative is difficult because of the many factors that must be balanced. Although this EIR identifies an Environmentally Superior Alternative, it is possible that the Commission could choose to balance the importance of each impact area differently and reach a different conclusion.

5.2 Evaluation of Project Alternatives

Three alternatives in addition to the No Project Alternative were identified for evaluation in this EIR. This section compares the potential environmental impacts for the Proposed Project and three alternatives. A detailed analysis of environmental impacts and mitigation for all project alternatives is provided in Sections 4.1 through 4.15. The following discussion is organized based on level of impacts as defined by CEQA, first by significant unmitigable (Class I) impacts, and secondly less than significant with mitigation (Class II) and less than significant with no mitigation required (Class III) impacts.

There would be significant unmitigable (Class I) impacts on agricultural and cultural resources under the Proposed Project and each alternative (Table 5-1) and significant unmitigable (Class I) impacts on biological resources under Alternative 3.

Significant unmitigable impacts on agricultural resources under the Proposed Project are identified as the permanent removal of 31.1 acres of Farmland (e.g., 16.1 acres of Prime Farmland, 0.7 acres of Farmland of Statewide Importance, 14.3 acres of Unique Farmland). Alternatives 2, 3, and 6 would also result in the permanent removal of prime, important or unique farmland, but the acreages vary by alternative (Table 5-1). Comparatively, the Proposed Project would result in the permanent removal of 31.1 acres of Farmland while Alternatives 2, 3, and 6 would result in the permanent removal of 23.9 acres, 16.7 acres, and 30.7 acres respectively. Based on this analysis, Alternative 3 would result in the least amount of impacts to agricultural resources; however, these effects would remain significant and unmitigable.

**TABLE 5-1
SUMMARY OF SIGNIFICANT UNMITIGABLE (CLASS I) ENVIRONMENTAL IMPACTS
OF THE PROPOSED PROJECT AND ALTERNATIVES**

Alternative	Significant (Class I) Impacts
Proposed Project	<p>The Proposed Project would result in permanent removal of 31.1 acres of Farmland (e.g., 16.1 acres of Prime Farmland, 0.7 acres of Farmland of Statewide Importance, and 14.3 acres of Unique Farmland).</p> <p>Proposed Project would result in the conversion of Farmland to non-agricultural uses in areas where height restrictions of crops within the right-of-way (ROW) would cause walnut orchards to become unproductive.</p> <p>The Proposed Project would result in alterations to elements of the Big Creek Hydroelectric System Historic District.</p>
Class I Impacts Eliminated or Created by Alternatives	
Alternative 2	<p>Significant unmitigable impacts on agricultural resources include the permanent removal of 23.9 acres of Farmland (e.g., 9.5 acres of Prime Farmland, 0.6 acres of Farmland of Statewide Importance, and 13.8 acres of Unique Farmland).</p> <p>Same conversion of Farmland to non-agricultural uses in areas where height restrictions of crops within the ROW would cause walnut orchards to become unproductive.</p> <p>Same significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District as Proposed Project.</p>
Alternative 3	<p>Significant unmitigable impacts on agricultural resources include the permanent removal of 16.7 acres of Farmland (e.g., 6.6 acres of Prime Farmland, 0.9 acres of Farmland of Statewide Importance, and 9.2 acres of Unique Farmland).</p> <p>Same conversion of Farmland to non-agricultural uses in areas where height restrictions of crops within the ROW would cause walnut orchards to become unproductive.</p> <p>Same significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District as Proposed Project.</p> <p>Substantial adverse impact to northern claypan vernal pool habitat that is protected in the Stone Corral Ecological Reserve.</p> <p>Significant effects to jurisdictional waters of the United States and waters of the State, including drainages and seasonal wetlands</p>
Alternative 6	<p>Significant unmitigable impacts on agricultural resources include the permanent removal of 30.7 acres of Farmland (6.7 acres of Prime Farmland, 24.0 acres of Farmland of Statewide Importance, and zero acres of Unique Farmland).</p> <p>Same conversion of Farmland to non-agricultural uses in areas where height restrictions of crops within the ROW would cause walnut orchards to become unproductive.</p> <p>Same significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District as Proposed Project.</p>

Significant unmitigable (Class I) impacts on cultural resources under the Proposed Project are identified as impacts to elements of the Big Creek Hydroelectric System Historic District (i.e., the Rector Substation and the Big Creek 1-Rector and Big Creek 3-Rector 220 kV transmission line towers). The same significant unmitigable impacts to the Big Creek Hydroelectric System Historic District would occur for all three alternatives.

In addition to the significant unmitigable impacts described above, there are several differentiating impacts that with mitigation would be less than significant. Table 5-2 provides a comparison of potential impacts by alternative for each resource category.

**TABLE 5-2
PROPOSED PROJECT VS. ALTERNATIVES
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS**

Resource Area	Proposed Project	Alternative 2	Alternative 3	Alternative 6
Aesthetics	Impacts determined to be Class II and Class III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Agriculture Resources	Impacts determined to be significant unmitigable impacts to agricultural resources. Significant unmitigable impacts would include permanent removal of: <ul style="list-style-type: none"> • 16.1 acres of Prime Farmland; • 0.7 acres of Farmland of Statewide Importance; and • 14.3 acres of Unique Farmland. <p>TOTAL = 31.1 acres</p> <p>Less than significant impacts would include permanently removing 29 acres of Farmland that supports walnut orchards from production.</p> <p>Most impacts on agriculture</p>	Impacts would be similar to Proposed Project but to a lesser degree. Significant unmitigable impacts would include permanent removal of: <ul style="list-style-type: none"> • 9.5 acres of Prime Farmland; • 0.6 acres of Farmland of Statewide Importance; and • 13.8 acres of Unique Farmland. <p>TOTAL = 23.9 acres</p> <p>Less than significant impacts would include permanently removing 12 acres of Farmland that supports walnut orchards from production.</p>	Impacts would be similar to Proposed Project but to a lesser degree. Significant unmitigable impacts would include permanent removal of: <ul style="list-style-type: none"> • 6.6 acres of Prime Farmland; • 0.9 acres of Farmland of Statewide Importance; and • 9.2 acres of Unique Farmland. <p>TOTAL = 16.7 acres</p> <p>Less than significant impacts would include permanently removing 12 acres of Farmland that supports walnut orchards from production.</p> <p>Least impacts on agriculture</p>	Impacts would be similar to Proposed Project but to a lesser degree. Significant unmitigable impacts would include permanent removal of: <ul style="list-style-type: none"> • 6.7 acres of Prime Farmland; • 24.0 acres of Farmland of Statewide Importance; and • 0 acres of Unique Farmland. <p>TOTAL = 30.7 acres</p> <p>Less than significant impacts would include permanently removing 12 acres of Farmland that supports walnut orchards from production.</p>
Air Quality	Impacts determined to be Class II and Class III. No Preference	Impacts would be similar to Proposed Project. No Preference	Impacts would be similar to Proposed Project. No Preference	Impacts would be similar to Proposed Project. No Preference
Biological Resources	Impacts determined to be Class II and Class III. No Preference	Impacts would be similar to Proposed Project. No Preference	Most impacts would be similar to Proposed Project; however, Alternative 3 would cause significant unmitigable impacts on northern claypan vernal pool habitat that is protected in the Stone Corral Ecological Reserve as well as to jurisdictional waters of the United States and waters of the State, including drainages and seasonal wetlands. Most impacts on biological resources	Impacts would be similar to Proposed Project. No Preference

TABLE 5-2 (Continued)
PROPOSED PROJECT VS. ALTERNATIVES
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Resource Area	Proposed Project	Alternative 2	Alternative 3	Alternative 6
Cultural Resources	Would result in project specific and cumulatively significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District. No Preference	Would result in project specific and cumulatively significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District. No Preference	Would result in project specific and cumulatively significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District. No Preference	Would result in project specific and cumulatively significant unmitigable impacts to elements of the Big Creek Hydroelectric System Historic District. No Preference
Geology, Soils, Seismicity and Mineral Resources	Impacts determined to be Class II and Class III No Preference	Impacts would be similar to Proposed Project. No Preference	Impacts would be similar to Proposed Project except, terrain is much steeper, which would increase the amount of road construction and earthwork necessary. No Preference	Impacts would be similar to Proposed Project. No Preference
Hazards and Hazardous Materials	Impacts determined to be Class II and III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Hydrology and Water Quality	Impacts determined to be Class II and Class III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Land Use, Planning, and Policies	Consistent with land use policies and plans; impacts determined to be Class III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Noise	Impacts determined to be Class II and III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Population and Housing	Impacts determined to be Class III. One residential housing unit would be displaced. No preference	Impacts would be similar to the Proposed Project except no residential units would be displaced. No preference	Impacts would be similar to the Proposed Project except no residential units would be displaced. No preference	Impacts would be similar to the Proposed Project except no residential units would be displaced. No preference

TABLE 5-2 (Continued)
PROPOSED PROJECT VS. ALTERNATIVES
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Resource Area	Proposed Project	Alternative 2	Alternative 3	Alternative 6
Public Services	Impacts determined to be Class II and Class III. No preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Recreation	Impacts determined to be Class III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Transportation and Traffic	Impacts determined to be Class II and Class III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference
Utilities and Service Systems	Impacts determined to be Class III. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference	Impacts would be similar to the Proposed Project. No Preference

5.3 Environmentally Superior Alternative

As discussed in the previous section, the Proposed Project and all three alternatives would have significant unmitigable impacts on agricultural and cultural resources. Additionally, Alternative 3 would have significant unmitigable impacts on biological resources. The extent of the unmitigable impacts on agricultural resources varies slightly by alternative but could not be mitigated to less than significant levels for the Proposed Project or any alternative. Consequently, the selection of an environmentally superior alternative is based on differences in intensity and type of significant impacts (Table 5-2). Based on these differences the identified environmentally superior alternative is Alternative 2

All three alternatives studied in this EIR were variations of alignments that would use varying amounts of existing ROW and establish new ROW where no transmission line currently exists. For a number of resources there are no material environmental impact differences between the Proposed Project and alternatives including: aesthetics; air quality; geology, soils, seismicity and mineral resources; hazards and hazardous materials; hydrology and water quality; land use, planning, and policies; noise; population and housing; public services; recreation; transportation and traffic; and utilities and service systems.

Implementation of the Proposed Project and all three alternatives would result in a significant unmitigable (Class I) impact on cultural resources (i.e., the Big Creek Hydroelectric System Historic District). Although impacts to the Historic District would be of varying degrees (i.e., Alternative 3 would impact more features associated with the Historic District than the Proposed Project), the majority of the Historic District would remain intact; therefore, impacts of varying degree between alternatives is not material enough to determine a preferred alternative from a cultural resources perspective.

Resource categories where environmental impacts would either be materially lessened or increased by implementing an alternative to the Proposed Project are discussed below.

- **Agricultural Resources** – Impacts would be significant and unmitigable for all alternatives. Compared to the Proposed Project, Alternative 3 would permanently remove the least amount of Farmland, followed by Alternative 2 and then Alternative 6. All three alternatives would remove approximately one-half the acreage of walnut orchards that would be removed from production under the Proposed Project.
- **Biological Resources** – Impacts would be significant and unmitigable for Alternative 3.

While Alternative 3 would result in the least impacts on agricultural resources, due to its significant unmitigable impacts to biological resources, Alternative 3 would not be environmentally superior. The EIR team looked for a feasible alignment for Alternative 3 to bypass the sensitive habitat in the Stone Corral Ecological Reserve; however, a bypass was not feasible due to additional sensitive habitat, residential structures, and other physical constraints on both sides of the Reserve. Since the significant unmitigable impact to biological resources for Alternative 3 could not be avoided through rerouting, Alternative 2 is the Environmentally Superior Alternative.

5.4 No Project Alternative vs. the Environmentally Superior Alternative

5.4.1 Summary of the No Project Alternative and Its Impacts

The No Project Alternative is described in Section 3.4.4. Under the No Project alternative, the Proposed Project would not be built and would therefore have no environmental impacts related to project construction and maintenance. However, from an operational perspective, demand for electricity in the Electrical Needs Area would not be adequately met, and the unequal distribution of load would continue to result in overloads on the 220 kV lines serving Rector Substation from the Big Creek Hydroelectric Project. This condition would continue to jeopardize SCE's ability to provide safe and reliable electric service to customers within the Electrical Needs Area, creating the potential for increased incidence of brown-outs and black-outs in the future. Such disruptions to electric service could result in indirect impacts to the provision of public services.

5.4.2 Summary of the Environmentally Superior Alternative and Its Impacts

The Environmentally Superior Alternative is defined in Section 5.3 as Alternative 2. Impacts of Alternative 2 are defined in each resource area's impact analysis in Sections 4.1 through 4.15, and are also summarized in Table 5-2, above. The Environmentally Superior Alternative would have two significant unmitigable (Class I) impacts on agricultural resources and one significant unmitigable impact on cultural resources. Impacts on agricultural resources would include permanent removal of 23.9 acres of Farmland (e.g., 9.5 acres of Prime Farmland, 0.6 acres of Farmland of Statewide Importance, and 13.8 acres of Unique Farmland) and conversion of Farmland to non-agricultural uses in areas where height restrictions of crops within the ROW would cause walnut orchards to become unproductive. Impacts on cultural resources would be to elements of the Big Creek Hydroelectric System Historic District. As discussed in Sections 4.1 through 4.15, other types of impacts would also occur under Alternative 2, but they would be either less than significant or mitigable to less than significant levels.

5.4.3 Conclusion: Comparison of the Environmentally Superior Alternative with the No Project Alternative

The Environmentally Superior Alternative (Alternative 2) would avoid significant impacts on biological resources and would have minimal long-term impacts on residences or other sensitive land uses. The most significant impact of the No Project Alternative is that SCE's ability to provide safe and reliable electric service to customers within the Electrical Needs Area would be jeopardized, creating the potential for increased incidence of brown-outs and black-outs in the future which could in turn result in indirect impacts to the provision of public services. Overall, the Environmentally Superior Alternative is preferred over the No Project Alternative, as the No Project Alternative would not meet the basic project objectives.