

## 12. Comparison of Alternatives

---

This section provides a comparison of the proposed Project and alternatives based on the analysis presented in Sections 5 through 11. This comparison describes the differences in impacts among the various alternatives, focusing primarily on noteworthy differences between the proposed Project and alternatives.

Based on the analyses of the Hydrology and Water Quality impacts of the proposed Project and alternatives, as presented in Sections 5 through 11, distinguishing characteristics of the alternatives have been highlighted in order to evaluate the overall effect of each alternative. For Hydrology and Water Quality, the differentiators used to compare the alternatives included such considerations as the number of streams that would be crossed, the water quality and level of surrounding development of the streams that would be crossed, the number of miles of Project structures within a Flood Hazard Area, and the potential for underlying groundwater to be contaminated by Project construction activities. A quantitative comparison of the alternatives was conducted for criteria where adequate data are available.

For comparison purposes, Table S-3 presents a summary matrix of the environmental issues associated with the proposed Project and the alternatives. As a result of constructing 148 transmission towers in the ANF by helicopters, Alternative 6 (Maximum Helicopter Construction in the ANF) would include the least amount of new or upgraded access and spur roads, in comparison with the proposed Project and other alternatives. Therefore, the amount of erosion and sedimentation that would occur under Alternative 6 would be lower and the subsequent impacts to surface and groundwater quality would also be diminished. Alternative 3 (West Lancaster) would follow the same route as the proposed Project except for a short distance in the North Region where the transmission line would traverse two additional unnamed streams (in comparison with the proposed Project). Alternative 4 (Chino Hills Routes), Route D, would cross fewer streams and overlies one fewer groundwater basin than the proposed Project, Alternative 3, or Alternative 6, but would affect high quality, natural streams within CHSP that would not be affected by the aforementioned alternatives. Alternative 4, Route A, would cross one more stream than Alternative 4, Route D; Alternative 4, Route B, would cross four additional streams; and Alternative 4, Route C, would cross six additional streams (in comparison with Alternative 4, Route D). Alternative 5 (Partial Underground) would avoid several stream crossings that would occur under the proposed Project; however, this alternative would have greater potential to come in direct contact with groundwater resources as a result of the 3.5-mile underground segment included in the South Region (Segment 8). Alternative 7 (66-kV Subtransmission) would also introduce the potential to come into contact with groundwater resources as a result of the undergrounded portions of 66-kV subtransmission line in the South Region (Segments 7 and 8).