

4 ALTERNATIVES

Section 15126.6 of the California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe a reasonable range of alternatives to a project or to the project location that would feasibly attain most of the project objectives but would avoid or lessen any significant environmental impacts. An EIR should evaluate the environmental impacts of the alternatives compared to a proposed project. This chapter of the EIR describes and evaluates alternatives to the Boulder Brush Facilities of the Campo Wind Project with Boulder Brush Facilities (Project). This is the portion of the Project over which the County of San Diego (County) can exercise discretion. This chapter implements the requirements set forth in the CEQA Guidelines (14 CCR 15000 et seq.), and identifies the Environmentally Superior Project Alternative, as required by CEQA Guidelines Section 15126.6(e)(2).

4.1 Rationale for Alternatives Selected

CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to a proposed project, as follows:

- A description of “a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” [Section 15126.6(a)]
- A setting forth of alternatives that “shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.” [Section 15126.6(f)]
- Discussion of a No Project Alternative, and “if the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” [Section 15126.6(e)(2)]
- A discussion and analysis of alternative locations “that would substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR.” [Section 15126.6(f)(2)(BA)]

The CEQA Guidelines emphasize that the selection of alternatives should be based primarily on the ability to avoid or significantly lessen significant impacts relative to a proposed project, “even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are the following (CEQA Guidelines Section 15126.6(c)):

- i. Failure to meet most of the basic project objectives,

- ii. Infeasibility, or
- iii. Inability to avoid significant environmental impacts.

4.1.1 Project Overview, Objectives, and Impacts

Given that the assessment of alternatives requires consideration of a proposed project's objectives, this section provides the Project overview and objectives for reference.

The Campo Wind Facilities would be located within a corridor of approximately 2,200 acres of land (Campo Corridor) within the approximately 16,000-acre Campo Band of Diegueño Mission Indians Reservation (Reservation) Boundary. The Campo Wind Facilities would consist of 60 wind turbines and associated infrastructure including an underground Electrical Collection and Communication System (ECCS), a collector substation, an operations and maintenance (O&M) facility, approximately 5 miles (approximately 42 poles) of generation transmission (gen-tie) line, temporary staging areas for use during construction, a temporary concrete batch plant for use during construction, temporary and permanent meteorological towers, and access roads.

The Boulder Brush Facilities would be located within a corridor of approximately 320 acres of land (Boulder Brush Corridor) within the approximately 2,000-acre Boulder Brush Boundary adjacent to the northeast portion of the Reservation, north of the community of Boulevard and Interstate (I) 8. The Boulder Brush Facilities are under the land use and permitting jurisdiction of the County and include approximately 3.5 miles (approximately 32 poles) of gen-tie line, a high-voltage substation, a 500-kilovolt (kV) switchyard, incoming and outgoing connection lines between the 500 kV switchyard and the Sunrise Powerlink (to be constructed by SDG&E), a new paved access road (up to 30 feet in width to the switchyard), and various unpaved access roads. Off-site improvements under County jurisdiction would include widening and paving a segment of Ribbonwood Road from Opalocka Road to the primary entrance to the Boulder Brush Facilities (for details, see Section 1.2.1.7, Roads, in Chapter 1, Project Description, Location, and Environmental Setting, of this EIR). Decommissioning would occur at the end of the Project's useful life cycle.

Collectively, the Campo Corridor and the Boulder Brush Corridor compose the approximately 2,520-acre Project Site. Chapter 1 of this EIR provides a detailed Project description.

Specific objectives for the Project are as follows:

1. Develop approximately 252 megawatts (MW) of renewable wind energy that can offset the need for additional energy production from fossil fuels and assist the state in meeting its air quality goals and reduce greenhouse gas (GHG) emissions in conformance with Assembly Bill 32 and Senate Bill 32.

2. Develop a wind energy project that can meet the criteria to achieve the maximum federal tax credits available which is intended to decrease the cost of renewable energy generation and delivery, promote the diversity of energy supply, and decrease dependence of the United States on foreign energy supplies.
3. Assist in directly achieving the state's Renewable Portfolio Standard of 100% zero carbon energy by 2045.
4. Develop a wind energy facility as near as possible to existing transmission infrastructure.
5. Develop a wind energy facility within the Reservation supporting the economy by creating short- and long-term employment opportunities and long-term revenue.
6. Result in an economically feasible wind energy project that would be developed through commercially available financing.
7. Displace approximately 58,000 metric tons of carbon dioxide (CO₂, a GHG) emissions per year that would otherwise be required to generate the same amount of electricity (252 MW) as generated by this 252 MW Project.

The Project would result in significant unavoidable impacts to aesthetics, noise, shadow flicker, and also to certain County-recognized sensitive biological resources. The components of the Project causing these significant unavoidable impacts are located on the Reservation and are not subject to the County's authority and jurisdiction.

4.2 Alternatives Considered But Rejected

CEQA Guidelines Section 15126.6(c) recommends that an EIR identify alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the CEQA Guidelines, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and whether the applicant can reasonably acquire, control, or otherwise have access to the alternative site. Several alternatives for the Project were rejected from further analysis consistent with Section 15126.6(c) of the CEQA Guidelines. A description of each alternative and the rationale for rejection is provided below.

Alternatives on the Reservation

The BIA has jurisdiction over the Campo Wind Facilities and has prepared an Environmental Impact Statement (EIS) to evaluate Project effects under the National Environmental Policy Act (NEPA). The EIS evaluates alternatives, including the Project and a Reduced Project alternative (approximately 20% reduction; 202 MW, 48 turbines), as well as the No Action Alternative. The

EIS also considered several other alternatives that were not taken forward for evaluation because they either did not meet the purpose and need of the Project or were not considered technically feasible or economically feasible or cost-effective, including a mixed solar and wind alternative; minimal build-out; Off-Reservation location; reduced capacity turbines; and distributed generation. Please refer to Chapter 2 of the EIS for additional information on these alternatives (BIA 2019). This analysis hereby adopts and incorporates by reference the EIS. The County does not have any authority or ability to exercise discretion for activities on the Reservation; with respect to the Project as a whole, its role is more like that of a responsible agency rather than a lead agency under CEQA. Therefore, alternatives to components of the Project on the Reservation (such as fewer or smaller turbines; relocated turbines or alternative technologies) are not evaluated as alternatives in this EIR because the County has no authority to approve or disapprove land uses outside its political boundaries.

4.3 Alternatives Carried Forward for Consideration

Section 15126.6(f)(1) of the CEQA Guidelines states:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries ... and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

As discussed above, CEQA requires that a no project alternative be evaluated (CEQA Guidelines, Section 15126.6[e]). While the County does not have jurisdiction of the Campo Wind Facilities on the Reservation, a No Project Alternative has been included as part of this chapter out of an abundance of caution. In addition to the No Project Alternative, the County selected a reasonable range of alternatives to the Boulder Brush Facilities only that would attain most of the basic objectives of the Project, would be feasible to implement, and would avoid or substantially lessen one or more of the significant effects of the Project. Accordingly, the following alternatives to the Project were selected:

- Alternative 1: No Project Alternative
- Alternative 2: No Boulder Brush Facilities on Private Lands Alternative
- Alternative 3: Alternative Gen-Tie Route within Boulder Brush Boundary
- Alternative 4: Underground Gen-Tie within Boulder Brush Boundary Alternative

Pursuant to Section 15126.6(d) of the CEQA Guidelines, each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less than, similar to, or greater than the corresponding impacts of the Project. Each alternative is also evaluated to determine whether the Project objectives would be substantially attained.

The analysis methodology uses the following process:

- Determination of environmental impact resulting from the alternative.
- Comparison of the Project's impact and the alternative's impact with determinations of the following:
 - Less: Where the alternative's impact would be clearly less adverse or more beneficial than the impact of the Project
 - Similar: Where the alternative and Project would have roughly equivalent impacts
 - Greater: Where the alternative's impact would be clearly more adverse or less beneficial than the Project
- The comparative analysis is followed by a general discussion based on the CEQA resource topic area and a discussion of the alternative's ability to meet the Project objectives.

In several cases, the severity of the impact may be the same under an alternative as measured against the CEQA significance thresholds (e.g., both the Project and a given alternative would result in a less than significant impact). However, the actual magnitude of the impact may be slightly different, providing the basis for a conclusion of greater or lesser impacts, even though both are considered less than significant.

Table 4-1, Comparison of Impacts from Alternatives to the Project, presents a summary matrix of the Project's impacts compared to the four alternatives. Environmental areas previously dismissed from further consideration in this EIR as clearly less than significant and unlikely to occur—as determined in Section 3.2, Effects Found Not Significant during Initial Study, of this EIR (i.e., mineral resources, population and housing, and parks and recreation)—are not included in the comparison table.

4.3.1 Alternative 1: No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate the specific alternative of “no project” along with its impact. As stated in this section of the CEQA Guidelines, the purpose of describing and analyzing a No Project Alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving that project. As specified in Section 15126.6(e)(3)(B) of the CEQA Guidelines, the No Project Alternative for a

development project consists of the circumstance under which a proposed project does not proceed. Section 15126.6(e)(3)(B) further states that “in certain instances, the no project alternative means ‘no build’ wherein the existing environmental setting is maintained.”

The No Project Alternative assumes that no portion of the Project would be developed and the existing conditions would remain. No reasonably expected actions or changes to the Project Site would be anticipated.

Ability to Meet Project Objectives

The No Project Alternative would not achieve any of the Project objectives outlined in Chapter 1 of this EIR.

Feasibility

The No Project Alternative would be feasible to implement. The Project Site would remain in its current condition.

Comparison of the Effects of Alternative 1 to the Project

Aesthetics

Construction: Alternative 1 would not alter the existing condition of the Project Site or require any construction activities, and therefore would not result in any change to the visual character of the area. No construction impacts associated with aesthetics would occur under this alternative, and construction-related aesthetics impacts would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in any facilities on the Reservation or private lands that could result in permanent change to the visual character of the area. No operational impacts associated with aesthetics would occur under this alternative, and, therefore, operational aesthetics impacts would be less than those anticipated from the Project.

Agricultural Resources

Construction: Alternative 1 would not alter the existing condition of the Project Site or require any construction activities, and therefore would not result in any change to the use of the site for agricultural purposes. No construction impacts associated with loss of agricultural land would occur under this alternative; therefore, construction-related agricultural impacts would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in energy generation or transmission facilities that could result in permanent change to the agricultural use of the area. No operational impacts associated with agricultural resources would occur under Alternative 1, similar to the Project.

Air Quality

Construction: Alternative 1 would not alter the existing condition of the Project Site or require any construction activities, and, therefore, would not result in any construction emissions associated with construction worker and construction truck traffic, or the use of heavy-duty construction equipment. As such, construction-related regional and localized air quality impacts would not occur. Therefore, construction impacts on air quality under this alternative would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in any operations or operational emissions. Minor operational emissions associated with the Project would not result with implementation of Alternative 1, therefore, the operational impacts on air quality under this alternative would be less than anticipated under the Project.

Biological Resources

Construction: Under Alternative 1, the energy generation and transmission facilities would not be constructed and potential construction impacts to biological resources would not occur. Therefore, impacts on biological resources under Alternative 1 would be less than anticipated under the Project.

Operation: Alternative 1 would not result in the development of energy generation or transmission facilities and, therefore, biological resources on site would remain in their current condition. As such, impacts on biological resources under this alternative would be less than anticipated under the Project.

Cultural Resources

Construction: Alternative 1 would not impact culturally significant resources because no ground disturbance would occur on the Project Site. Furthermore, the undeveloped lands within the Project Site would remain and potential construction impacts (including ground-disturbing activities such as grading or other earthwork) that could risk potential disturbance of previously unknown resources, would not occur. Therefore, construction-related cultural resource impacts would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in the development of energy generation or transmission facilities; therefore, no operational impacts to cultural resources would occur under Alternative 1. Operational impacts under this alternative would be less than those anticipated from the Project.

Geology and Soils

Construction: Alternative 1 would not result in the development of the Project and therefore would not require grading or other earthwork activities. Therefore, Alternative 1 would not cause or accelerate geologic hazards related to fault rupture, strong seismic shaking, liquefaction, seismically induced settlement, soil stability, subsidence, or expansive soils that would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. No impacts related to geology and soils would occur under this alternative, and therefore, construction-related geology and soils impacts would be less than those anticipated from the Project.

Operation: Under Alternative 1, the Project Site would remain undeveloped and would not change or increase the exposure of humans or structures to potential landslides, liquefaction, subsidence, or other geological hazards. As such, the operational geology and soils impacts under this alternative would be less than those anticipated from Project.

Greenhouse Gas Emissions and Energy

Construction: Alternative 1 would not result in the development of renewable energy generation or transmission facilities and would not generate any short-term construction-related GHG emissions, nor result in an increase in construction-related energy use. This alternative would have no impact on GHG emissions; therefore, construction-related GHG emissions impacts and energy use would be less than under the Project.

Operation: Alternative 1 would not result in the development of renewable energy generation or transmission facilities and no facilitation of a reduction in GHG emissions or energy use or otherwise offset of the need for fossil fuel electricity generating facilities would occur. Therefore, operational GHG emissions and energy use impacts would be greater than under the Project.

Hazards and Hazardous Materials

Construction: Alternative 1 would not result in the development of energy generation or transmission facilities; no new construction activities would occur at the Project Site. Therefore, exposure to potentially hazardous materials associated with construction or generation of hazardous waste would not occur. As such, construction-related hazards and hazardous materials impacts under this alternative would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in the development of energy generation or transmission facilities and the Project Site would remain undeveloped. No use of hazardous chemicals, such as commercially available cleaning products, lubricants, oil, or other hazardous substances, would occur. Therefore, operation-related hazards and hazardous materials impacts under this alternative would be less than those anticipated from the Project.

Hydrology and Water Quality

Construction: Alternative 1 would not result in the development of energy generation or transmission facilities, no grading or construction of facilities would occur, and there would be no potential for runoff from the Project Site to be affected by sedimentation or other potential contaminants. Additionally, no changes in drainage patterns would occur. Therefore, construction-related impacts to hydrology and water quality under this alternative would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in the development of energy generation or transmission facilities on the Project Site. There would be no changes to impermeable surfaces, and the existing drainage pattern on the Project Site would remain unchanged. Consequently, operational impacts related to hydrology and water quality under this alternative would be less than those anticipated from the Project.

Land Use and Planning

Construction: Alternative 1 would not result in the development of energy generation or transmission facilities, no construction would occur, and there would be no change to the existing land use or surrounding land uses. As such, construction impacts associated with land use and planning under this alternative would be less than those anticipated from the Project.

Operation: Under Alternative 1, the Project Site would remain undeveloped. Consequently, operational impacts related to land use and planning under this alternative would be less than those anticipated from the Project.

Noise

Construction: Alternative 1 would not result in the development of energy generation or transmission facilities and would not involve construction resulting in the temporary use of heavy-duty construction equipment or generation of construction traffic, including worker and haul truck trips to the Project Site. Because this alternative would not result in construction, no construction-related noise impacts would result and impacts would thus be less than those anticipated from the Project.

Operation: Under Alternative 1, the Project Site would remain undeveloped. As such, no operational noise impacts from the Project would be associated with this alternative, and impacts would be less than those anticipated from the Project.

Public Services

Construction: Alternative 1 would not result in the development of energy generation or transmission facilities that might increase demand for public services; therefore, construction-related public services impacts would not result and impacts would be less than those anticipated from the Project.

Operation: Alternative 1 would not result in the development of energy generation or transmission facilities on private lands that might increase demand on public services. As such, operational-related public services impacts would be less than those anticipated from the Project.

Traffic and Transportation

Construction: Alternative 1 would reduce short-term traffic or transportation impacts because no construction would occur. Therefore, construction-related traffic impacts would not result and thus would be less than those anticipated from the Project.

Operation: Alternative 1 would maintain the existing traffic and circulation patterns associated with the current land use; therefore, operational-related traffic impacts would not result and thus would be less than those anticipated from the Project.

Tribal Cultural Resources

Construction: Alternative 1 would not impact culturally significant Tribal cultural resources. Furthermore, the undeveloped lands within the Project Site would remain and potential construction impacts (including ground-disturbing activities such as grading or other earthwork) would not occur. Therefore, construction-related Tribal cultural resources impacts would be less than those anticipated from the Project.

Operation: Under Alternative 1, the Project Site would remain undeveloped; therefore, potential operational-related Tribal cultural resources impacts would not result and thus would be less than those anticipated from the Project.

Utilities and Service Systems

Construction: Under this alternative, there would be no construction. As such, associated increase in utility demand, including water for construction-related dust control and concrete mixing, would not occur. Therefore, potential construction-related impacts on utilities and service systems would not result and thus would be less than those anticipated from the Project.

Operation: Alternative 1 would retain the existing land use and there would be no increased demand on utilities such as water service. Therefore, potential operational-related impacts on

utilities and service systems under this alternative would not result and thus would be less than those anticipated from the Project.

Wildfire

Construction: Under this alternative, there would be no construction of facilities. As such, associated increase in wildfire ignition sources would not occur. Therefore, potential construction-related wildfire impacts would not result and impacts related to wildfire would be less than those anticipated from the Project.

Operation: Under this alternative, the existing land use would remain as is, and there would be no increase in potential wildfire ignition sources due to operational activities. Therefore, operational impacts related to wildfire under this alternative would not result and thus would be less than those anticipated from the Project.

4.3.2 Alternative 2: No Boulder Brush Facilities on Private Lands Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate the specific alternative of “no project” along with its impact. As stated in this section of the CEQA Guidelines, the purpose of describing and analyzing a No Project Alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving that project. As specified in Section 15126.6(e)(3)(B) of the CEQA Guidelines, the No Project Alternative for a development project consists of the circumstance under which a proposed project does not proceed. Section 15126.6(e)(3)(B) further states that “in certain instances, the no project alternative means ‘no build’ wherein the existing environmental setting is maintained.”

The No Boulder Brush Facilities on Private Lands Alternative assumes that the Boulder Brush Facilities would not be developed and the existing conditions on lands within the County’s land use jurisdiction would remain. No reasonably expected actions or changes to the Boulder Brush Corridor would be anticipated if the County does not approve the Major Use Permit for the Boulder Brush Facilities. Because the Reservation is outside the jurisdiction of the County, the No Boulder Brush Facilities on Private Lands Alternative may not result in no development of the Campo Wind Facilities. This alternative considers the connection of power generated on the Reservation by the 60 wind turbines to the grid via the Sunrise Powerlink, via a gen-tie route that extends across the Manzanita Band of Diegueño Mission Indians’ (Manzanita) Reservation and Bureau of Land Management (BLM) managed lands, connecting to a substation on a portion of the Sunrise Powerlink on BLM managed lands. The Alternative 2 On-Reservation gen-tie route alignment would generally be the same as that of the Project On-Reservation gen-tie route, but the Off-Reservation gen-tie line would traverse north and then east, eliminating the need for the Boulder Brush Facilities on private lands. The County does not have any authority or ability to (a) mandate

that a gen-tie line alignment be approved on BLM-managed or Tribal lands or (b) exercise discretion for activities on the Reservation, Manzanita Reservation, or BLM-managed lands (including an alternative gen-tie line route, substation location on BLM or Tribal lands, or any components on the non-private lands).

Ability to Meet Project Objectives

The No Boulder Brush Facilities on Private Lands Alternative could achieve most of the Project objectives if the wind turbines on the Reservation were able to be built without the Boulder Brush Facilities and instead were connected to the Sunrise Powerlink via similar interconnection facilities on federal lands. The viability of this alternative is uncertain, however, given the need to obtain permission to cross land under the control of another tribe and BLM. The Developer does not have land rights to place the gen-tie line in this alternative alignment.

Feasibility

The No Boulder Brush Facilities on Private Lands Alternative may not be feasible to implement. The Boulder Brush Corridor would remain in its current condition.

Comparison of the Effects of Alternative 2 to the Project

While removing connection to the grid through private lands could jeopardize the feasibility of the Project, the Campo Wind Facilities could persist under the No Boulder Brush Facilities On Private Lands Alternative if an alternative alignment that avoids private lands (e.g., connecting instead via facilities on Manzanita Reservation and BLM lands) could be achieved. As such, associated impacts for the Campo Wind Facilities would be the same as the Project and the analysis below addresses the change resulting from not undertaking the Boulder Brush Facilities on private lands. Impacts associated with the development of the gen-tie line and high-voltage substation would likely occur to a similar degree as Boulder Brush Facilities, but not on County-jurisdictional lands or subject to County discretion.

Aesthetics

Construction: Alternative 2 would not alter the existing condition of the Boulder Brush Corridor or require any construction activities, and therefore would not result in any change to the visual character within or of the Boulder Brush Boundary. No construction impacts associated with aesthetics would occur under this alternative on private lands, and associated construction-related aesthetics impacts on private lands would be less than construction of Boulder Brush Facilities under the Project.

Operation: Alternative 2 would not result in the Boulder Brush Facilities that could result in permanent change to the visual character within the Boulder Brush Boundary. Because a specific alternate alignment has not yet been determined, it is anticipated the level of impact would be similar to the Project.

Agricultural Resources

Construction: Alternative 2 would not alter the existing condition of the Boulder Brush Corridor or require any construction activities, and therefore would not result in any change to the use of the Boulder Brush Corridor for agricultural purposes. No construction impacts associated with loss of agricultural land would occur on private lands under this alternative; therefore, construction-related agricultural impacts would be less than construction of Boulder Brush Facilities under the Project.

Operation: Alternative 2 would not result in the Boulder Brush Facilities that could result in permanent change to the agricultural use within the Boulder Brush Boundary. No operational impacts associated with agricultural resources would occur under Alternative 2, similar to the Project.

Air Quality

Construction: Alternative 2 would not alter the existing condition of the Boulder Brush Corridor or require any construction activities, and, therefore, would not result in any construction emissions associated with construction worker and construction truck traffic, or the use of heavy-duty construction equipment on private lands. As such, construction-related localized air quality impacts would be reduced on private lands. However, construction of the gen-tie line, substation location, and components under Alternative 2 would be constructed elsewhere within the SDAB; therefore, construction impacts on air quality would be similar to the construction of Boulder Brush Facilities under the Project.

Operation: Alternative 2 would not result in inspections and maintenance on private lands as part of operations that could generate additional operational emissions related to vehicular traffic. Operational emissions associated with the Boulder Brush Facilities on private lands would not result with implementation of Alternative 2. However, the gen-tie line, substation location, and components under Alternative 2 would operate elsewhere, within the SDAB and operational impacts on air quality from operating Boulder Brush Facilities would be similar under this alternative than the Project.

Biological Resources

Construction: Under Alternative 2, the Boulder Brush Facilities would not be constructed and potential construction impacts to biological resources on private lands would not occur. Therefore,

impacts on biological resources under Alternative 2 would be less than construction of Boulder Brush Facilities within the Boulder Brush Boundary under the Project.

Operation: Alternative 2 would not result in the development of the Boulder Brush Facilities on private lands, and, therefore, biological resources within the Boulder Brush Corridor would remain in their current condition. As such, potential impacts to biological resources from operation of the Boulder Brush Facilities under this alternative would be less within the Boulder Brush Boundary than anticipated under the Project.

Cultural Resources

Construction: Alternative 2 would not impact culturally significant resources on private lands because no ground disturbance would occur on the Boulder Brush Corridor. Therefore, potential construction-related cultural resource impacts within the Boulder Brush Boundary, associated with the risk of disturbance of previously unknown resources, would be less within the Boulder Brush Boundary than anticipated under the Project.

Operation: Alternative 2 would not result in the development of the Boulder Brush Facilities on private lands; therefore, potential operation-related impacts to cultural resources from operation of the Boulder Brush Facilities would be reduced within the Boulder Brush Boundary under Alternative 2 compared to the Project.

Geology and Soils

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities or require grading or other earthwork activities on private lands. Therefore, Alternative 2 would not cause or accelerate geologic hazards related to fault rupture, strong seismic shaking, liquefaction, seismically induced settlement, soil stability, subsidence, or expansive soils that would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury on private lands. No impacts related to geology and soils would occur under this alternative on private lands, and therefore, potential construction-related geology and soils impacts would be less within the Boulder Brush Boundary than under the Project.

Operation: Under Alternative 2, the Boulder Brush Corridor would remain undeveloped and would not change or increase the exposure of humans or structures to potential landslides, liquefaction, subsidence, or other geological hazards. As such, potential operation-related geology and soils impacts under this alternative would be less within the Boulder Brush Boundary than the Project.

Greenhouse Gas Emissions and Energy

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities on private land. However, construction of the gen-tie line, substation location, and components under Alternative 2 would be constructed elsewhere; therefore, construction impacts on GHG emissions would be similar to the construction of Boulder Brush Facilities under the Project.

Operation: Alternative 2 would not result in the development of the Boulder Brush Facilities on private land; however, operational activities generated by Alternative 2 would be similar to the Project. Thus, impacts on GHG emissions would be similar to the operation of Boulder Brush Facilities under the Project.

Hazards and Hazardous Materials

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities on private lands within the Boulder Brush Corridor; therefore, exposure to potentially hazardous materials associated with construction or generation of hazardous waste would not occur on private lands. As such, potential construction-related hazards and hazardous materials impacts under this alternative would be less within the Boulder Brush Boundary than under the Project.

Operation: Alternative 2 would not result in the development of the Boulder Brush Facilities on private land and the Boulder Brush Corridor would remain undeveloped and no use of hazardous chemicals, such as commercially available cleaning products, lubricants, oil, or other hazardous substances, would occur. Therefore, potential operation-related hazards and hazardous materials impacts under this alternative would be less within the Boulder Brush Boundary than under the Project.

Hydrology and Water Quality

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities on private land, no construction would occur on private land, and there would be no potential for runoff from the Boulder Brush Corridor to be affected by sedimentation or other potential contaminants. Additionally, no changes in drainage patterns would occur. Therefore, potential construction-related impacts to hydrology and water quality under this alternative would be less within the Boulder Brush Boundary than under the Project.

Operation: Alternative 2 would not result in the development of the Boulder Brush Facilities on the Boulder Brush Corridor. There would be no changes to impermeable surfaces, and the existing drainage pattern on the Boulder Brush Corridor would remain unchanged. Therefore, potential operation-related impacts related to hydrology and water quality under this alternative would be less within the Boulder Brush Boundary than under the Project.

Land Use and Planning

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities on private land, no construction would occur on private land, and there would be no change to the existing land use within the Boulder Brush Corridor. As such, construction impacts associated with land use and planning on private lands under this alternative would be less than under the Project.

Operation: Under Alternative 2 the Boulder Brush Corridor would remain undeveloped. Consequently, operational impacts related to land use and planning within private lands under this alternative would be less than operation of Boulder Brush Facilities under the Project.

Noise

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities on private land and would not involve construction resulting in the temporary use of heavy-duty construction equipment or generation of construction traffic, including worker and haul truck trips to the Boulder Brush Corridor along Ribbonwood Road. Because this alternative would not result in construction on private lands and construction traffic would not travel on private roads, construction-related noise impacts from Boulder Brush Facilities within private lands would be less than under the Project.

Operation: Under Alternative 2, the Boulder Brush Corridor would remain undeveloped. As such, no operational noise from the Boulder Brush Facilities would be associated with this alternative, and potential noise impacts within private lands would be less than operation of Boulder Brush Facilities under the Project.

Public Services

Construction: Alternative 2 would not result in the development of the Boulder Brush Facilities on private lands that might increase demand for public services; therefore, potential construction-related public services impacts would be less than construction of Boulder Brush Facilities under the Project.

Operation: Alternative 2 would not result in the development of the Boulder Brush Facilities on private lands that might increase demand on public services. As such, potential operation-related public services impacts would be less than operation of Boulder Brush Facilities under the Project.

Traffic and Transportation

Construction: Alternative 2 would reduce short-term traffic or transportation impacts on Ribbonwood Road and I-8 on and off-ramps because no construction would occur on private lands.

Transportation routes would consist of I-8 to Crestwood Road/BIA Road 12 on and off-ramps. Therefore, potential construction-related traffic impacts would be less than construction of Boulder Brush Facilities under the Project at Ribbonwood Road but increased at Crestwood Road.

Operation: Alternative 2 would maintain the existing traffic and circulation patterns associated with the current land use on private lands; therefore, potential operational-related traffic impacts would be similar to operation of Boulder Brush Facilities under the Project.

Tribal Cultural Resources

Construction: Alternative 2 would not impact culturally significant Tribal cultural resources on private lands. Furthermore, the undeveloped private lands would remain and potential construction impacts (including ground-disturbing activities such as grading or other earthwork) would not occur on private lands. Therefore, potential construction-related Tribal cultural resources impacts within the Boulder Brush Corridor would be less than under the Project.

Operation: Under Alternative 2, the Boulder Brush Corridor would remain undeveloped; therefore, potential operation-related Tribal cultural resources impacts would be less within the Boulder Brush Corridor than under the Project.

Utilities and Service Systems

Construction: Under this alternative, associated utility demand, including water for construction-related dust control and concrete mixing, would be similar to the Project. Therefore, potential construction-related impacts on utilities would be similar to the Project.

Operation: Alternative 2 would not construct Project facilities on private lands; however, the operational water demand of this alternative would be similar to that of the Project. Therefore, potential operation-related impacts on utilities would be similar to the Project.

Wildfire

Construction: Under this alternative, there would be no construction of Boulder Brush Facilities within the County's jurisdiction. While, construction of these components would be constructed elsewhere and potential wildfire ignition sources due to construction activities would be similar that location, the impacts would not occur within the County's jurisdiction. Therefore, potential construction related impacts on wildfire within the County's jurisdiction under this alternative would be less than impacts under the Project.

Operation: Under this alternative there would be no operation of Boulder Brush Facilities within the County's jurisdiction. While, operation of these components would occur elsewhere. Therefore, potential operational impacts on wildfire within the County's jurisdiction under this alternative would be less than impacts under the Project.

4.3.3 Alternative 3: Alternative Gen-Tie Line Route within Boulder Brush Boundary

Alternative 3 would result in implementation of the Campo Wind Facilities as described under the Project, but a portion of the Off-Reservation gen-tie line would be located along an alternative alignment on private land within the Boulder Brush Boundary, as shown in Figure 4-1, Alternative 3: Alternative Gen-Tie Line Route within Boulder Brush Boundary. The southern portion of the Off-Reservation gen-tie route would follow an alternate route to the west. The northern portion of the Off-Reservation gen-tie route would follow the same alignment as the Project. Although this alternate gen-tie route would modestly increase the total length of the Off-Reservation gen-tie line from approximately 3.5 miles to 3.7 miles, there would not be an increase in the number of required pole structures. In addition, there would be one less pull site required due to a reduction in need for one angle structure, and there would be a reduction of approximately 1.1 miles of decomposed granite roads required to access pole structures since this alternative route would align much closer to the main east/west decomposed granite access road. Therefore, even though the overall length of the Off-Reservation gen tie line would increase by approximately 0.2 miles, there would be an approximately 8 to 10 acre net decrease in disturbed acres associated with construction of the Boulder Brush Facilities due to the reduction in disturbance associated with elimination of 1.1 miles of decomposed granite access roads and one pull site. Finally, the alternate route would span a narrower portion of the Tule Wash reducing disturbance resulting in a decrease in Resource Protection Ordinance (RPO) wetlands and vegetation disturbance during construction. The high-voltage substation, 500 kV switchyard and incoming/outgoing connection lines, and the paved access road would be the same as described for the Project.

Ability to Meet Project Objectives

Alternative 3 would meet the stated Project objectives outlined in Chapter 1 of this EIR.

Feasibility

Alternative 2 would be feasible to implement.

Comparison of the Effects of Alternative 3 to the Project

Under this alternative, the Campo Wind Facilities would be the same as the Project. The analysis below addresses the change resulting from altering the Off-Reservation gen-tie line on private lands only.

Aesthetics

Adverse effects typically associated with development include the loss of natural vegetation, removal of natural features with aesthetic value, modification of terrain (e.g., alteration of topography through grading), and/or introduction of contrasting elements within the existing landscape setting. The loss or degradation of significant visual features or views and the introduction of features that would significantly contrast with the visual character of an area or with the existing elements of form, line, color, or texture can be considered significant visual effects. Three primary viewer groups are afforded views of land within the Boulder Brush Corridor: residents, recreationists and motorists.

Within the viewshed, rural residences are concentrated south of the Boulder Brush Corridor, generally along Ribbonwood Road. Recreational opportunities in the Project Vicinity include off-highway-vehicle use (i.e., the Lark Canyon Off-Highway-Vehicle Area), camping, and trail-based recreation. Motorists on I-8, McCain Valley Road, Ribbonwood Road, Jewel Valley Road, Tierra del Sol, Opalocka Road, and a number of local roads in the Boulevard area are provided viewing opportunities to the McCain Valley area, including land within the Boulder Brush Corridor.

Construction: Under Alternative 3, construction may result in removal of less oak vegetation and rock outcroppings in the southern portion of the Boulder Brush Boundary that required under the Project. In addition, there would be one less pull site required for stringing the gen-tie line and a reduction of approximately 1.1 miles of decomposed granite access roads resulting in an approximately 8- to 10-acre net decrease in disturbed acres associated with construction of the Boulder Brush Facilities (refer to Figure 4-1). As with the Project, facilities have been designed to limit vegetation disturbance to the minimum footprint possible. However, and as with the Project, construction equipment, including cranes to erect the gen-tie poles, may be visible to residents, recreationists and/or motorists. Therefore, potential construction-related visual impacts under this alternative would be reduced compared to the Project; however, the level of significance of impacts would be the same as identified under the Project.

Operation: The alternative Off-Reservation gen-tie line alignment pulls the gen-tie line to the south by approximately a quarter mile toward key viewer groups, possibly incrementally increasing visual impacts to receptors to the southeast. While this might incrementally increase aesthetic impacts, the level of significance of visual impacts would not be increased. As with the Project, visual impacts would remain significant and unavoidable.

Agricultural Resources

Land within the Boulder Brush Boundary is not an important agricultural resource as determined by the County Department of Planning and Land Use's Local Agricultural Resource Assessment

Model. Under Alternative 3, the alternative Off-Reservation gen-tie line route would similarly be located in an area designated “Other Land” by the California Department of Conservation (refer to Figure 3.1.1-1, Zone of Influence Important Farmland, in Section 3.1.1, Agricultural Resources, of this EIR). The Boulder Brush Boundary has not been historically used for irrigated agricultural production, and is not designated by the Department of Conservation as Prime Farmland or Farmland of Statewide Importance (see Section 3.1.1, Agricultural Resources).

Construction: Alternative 3 would result in a reduced disturbance compared to the Project, primarily by eliminating approximately 1.1 miles of decomposed granite access roads. There would be no impact to locally significant agricultural resources or to Farmland of Statewide Importance. As such, construction-related agricultural impacts resulting from this alternative would be less than significant, similar to the Project.

Operation: As with the Project, operation of Alternative 3 would not impact local or state important agricultural resources. Therefore, operational impacts to agricultural resources resulting from this alternative would be less than significant, similar to the Project.

Air Quality

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM₁₀, and PM_{2.5}. VOCs and NO_x are important because they are precursors to O₃.

Construction: As noted in Section 2.2, Air Quality, maximum daily Project construction emissions would exceed the daily threshold for criteria air pollutant NO_x.

While the length of decomposed granite access roads would be reduced by approximately 1.1 miles, construction of Alternative 3 would be similar to the Project, and the intensity of air emissions and fugitive dust from site preparation and construction activities would be similar on days when all construction activities are occurring. Therefore, construction impacts on air quality under this alternative would be significant and similar to the Project; further, the duration of the overall construction schedule would be approximately the same under Alternative 3. Thus, the total number of days criteria air pollutants would be emitted would also be similar to the Project. **M-AQ-1** through **M-AQ-5** would reduce impacts of Alternative 3 to less than significant, as it would for the Project.

Operation: As noted in Section 2.2, maximum daily Project operational emissions would not exceed the operational thresholds for VOCs, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Alternative 3 would result in the same operational impacts on air quality as the Project at the regional level.

Biological Resources

The Project would result in potentially significant short-term and long-term direct and/or indirect impacts to special-status plants, special-status wildlife species, and wildlife habitat, as well as short-term direct impacts to wildlife movement and migratory birds. All significant impacts of the Boulder Brush Facilities would be reduced to less than significant with implementation of mitigation measures.

Construction: Construction of Alternative 3 would result in the installation of a gen-tie line and pole structures on private lands as well as the high-voltage substation, switchyard and loop in/out legs, and access roads. As with the Project, **M-BI-1** through **M-BI-16** would be implemented requiring preconstruction surveys, monitoring, restoration of disturbed areas, prevention of invasive plant species, sediment control, and obtaining regulatory permits (as required). Although this alternate gen-tie route would slightly increase the total length of the Off-Reservation gen-tie line from approximately 3.5 miles to 3.7 miles, there would not be an increase in the number of required support pole structures. In addition, one less pull site would be required for stringing the gen-tie line due to a reduction in need for one angle structure, and there would be a reduction of approximately 1.1 miles of decomposed granite roads required to access pole structures since this alternative route would align much closer to the main east/west decomposed granite access road. Therefore, even though the overall length of the Off-Reservation gen tie line would increase by approximately 0.2 miles, there would be an approximately 8 to 10 acre net decrease in disturbed acres associated with construction of the Boulder Brush Facilities. This reduction of disturbed acres would also result a decrease in removal of coast live oak woodland vegetation. Finally, the alternate route would span a narrower portion of the Tule Wash resulting in a decrease in disturbance to County RPO wetlands and vegetation during construction. Because this alternative gen-tie route would result in less disturbance acreage, including a reduction in disturbance to County RPO wetlands and vegetation, it is anticipated to reduce potential impacts to biological resources. As such, construction impacts on biological resources within the Boulder Brush Boundary under this alternative would be reduced, although the level of significance of impacts would be the same as the Project (see Section 2.3, Biological Resources).

Operation: Operation of an alternative gen-tie line route on private lands would have similar impacts to biological resources as the Project. The overall total development footprint would be reduced with Alternative 3, requiring less revegetation effort and reduced overall permanent impacts to vegetation communities. **M-BI-4, M-BI-7, M-BI-8, M-BI-9, M-BI-10, M-BI-11, M-BI-12, M-BI-13, M-BI-14, M-BI-15, and M-BI-16** would require habitat mitigation for

vegetation communities and habitats for special-status plant and wildlife species; a long-term avian monitoring plan, including removal of carcasses; sediment control; fire management; restricted access to the public; and prevention of invasive species. Therefore, operational impacts on biological resources within the Boulder Brush Boundary under this alternative would be similar compared to the Project.

Cultural Resources

Cultural resources are located within the Project area of direct impact (ADI), including prehistoric isolates, historic sites, prehistoric sites, and a site with both historic and prehistoric components.

Construction: Similar to the Project, construction of Alternative 3 could potentially result in ground disturbance to known or unknown cultural resources. Grading for gen-tie line pole structure access roads and placement of gen-tie line pole structures may impact subsurface resources. The subsurface disturbance would be reduced under this alternative with the reduction of decomposed granite access roads by approximately 1.1 miles. As with the Project, **M-CR-1**, **M-CR-2**, and **M-CR-3** would be implemented to flag potentially sensitive areas, have an archaeological monitor on site, and preserve known human remains in situ. Therefore, potential construction-related impacts on cultural resources under this alternative would be reduced compared to the Project, though remain less than significant with mitigation incorporated, the same as the Project.

Operation: Once in operation, the Project would not involve additional ground-disturbing activities that could impact potential archaeological resources outside of the ADI. Operation of Alternative 3 would have a less than significant impact to cultural resources, similar to the Project.

Geology and Soils

The Boulder Brush Boundary is located in the coastal foothill section of the Peninsular Ranges Geomorphic Province in the In-Ko-Pah Mountains. The McCain Valley, Lark Canyon, and numerous other small canyons and springs are present within the Boulder Brush Boundary. The Boulder Brush Boundary consists of steep slopes, prominent ridgelines, and rock outcroppings. Based on a literature review and site reconnaissance, the Boulder Brush Boundary is generally underlain by fill, alluvium, and granitic rock in various states of weathering. Fill soils were observed along the unpaved roads and on graded slopes. The Boulder Brush Boundary is not located within an Earthquake Fault Zone (see Section 3.1.3, Geology, Soils, and Seismicity), nor is it located in a County of San Diego Special Study Zone (County of San Diego 2007). Due to the dense nature of subsurface materials (mainly the shallow depth of granitic rock) within the Boulder Brush Boundary, potential for liquefaction and expansive soils is considered low. No landslides or related features are known to underlie or be adjacent to the Boulder Brush Boundary (see Section 3.1.3).

Construction: Construction of Alternative 3 would result in grading and soil disturbance in a location without potential geologic or soil stability concerns. As with the Project, implementation of standard best management practices (BMPs) and compliance with regulations, such as the California Building Code, would result in less than significant geologic, soil, and seismicity impacts, similar to the Project.

Operation: Operation of Alternative 3 would result in a gen-tie line and associated gen-tie line pole structures on private lands as well as a high-voltage substation, switchyard and incoming/outgoing connection lines, and access roads in an area with no documented geologic or soil stability issues. As with the Project, potential operation-related impacts from Alternative 3 related to geology and soils would be less than significant, similar to the Project.

Greenhouse Gas Emissions and Energy

Principal GHGs regulated under state and federal law include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). GHG emissions are measured in metric tons (MT) of CO₂ equivalent (CO₂e), which accounts for the weighted global warming potential factors for CH₄ and N₂O. Energy sources would include emissions associated with building electricity. San Diego Gas & Electric (SDG&E) would be the energy source provider for the Project. In 2016, 43% of the energy provided to SDG&E customers was from renewable sources, compared to 10% in 2009 (10% is the CalEEMod default value for SDG&E) (CEC 2017).

The Project is estimated to result in total operational emissions combined with amortized construction and vegetation removal GHG emissions would be 929 MT CO₂e per year, assuming a 30-year project life. Energy consumption of electricity, natural gas, and petroleum during construction of the Project would not cause an exceedance of any threshold or regulation (see Section 3.1.4, Greenhouse Gas Emissions).

Construction: Alternative 3 would result in approximately 8 to 10 acres of reduced disturbance. As such, Alternative 3 would generate approximately less than or equal to the same GHG emissions as the Project. GHG emissions generated during construction of the Project would be short-term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Energy consumption of electricity, natural gas, and petroleum during construction of Alternative 3 is assumed to be similar to the Project, given the type and number of construction equipment. Therefore, construction impacts on GHG emissions and energy under this alternative would be less than significant, similar to the Project.

Operation: Total Project operational emissions, combined with amortized construction and vegetation removal GHG emissions, would be approximately 929 MT CO₂e per year, assuming a 30-year Project life (see Section 3.1.4), which would be approximately the same under Alternative

3. Therefore, the operational impacts on GHG emissions under this alternative would be the same as under the Project; impacts would be less than significant.

Hazards and Hazardous Materials

A Phase I Environmental Site Assessment (ESA) indicated that much of the Boulder Brush Boundary appears to have remained vacant, undeveloped land since 1939, and that no recognized environmental conditions were identified in connection with the site. The southwestern portion of the Boulder Brush Boundary may have been used as ranching land in the past, although the dates of this potential land use are unknown. A structure, presumed to be a residence potentially associated with ranching activity, was depicted in historical topographic maps on the southern portion of the Boulder Brush Boundary starting in 1939. A feature labeled “Airway Beacon” was depicted on the northern portion of the Boulder Brush Boundary on historical topographic maps from 1959 through 1997 (Appendix F-2). The Boulder Brush Boundary is located outside of Jacumba Airport’s airport influence area and there are no active private airstrips within the Project Vicinity (San Diego County Airport Land Use Commission 2006). The Boulder Brush Boundary is located in a High to Very High Fire Hazard Severity Zone, as statutorily designated by the California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE 2007).

Construction: Alternative 3 would result in the relocated placement of gen-tie line pole structures and associated access roads within a property that has been evaluated in a Phase I ESA. Although the Phase I ESA concluded that while points of interest and potential site hazards were identified within the Boulder Brush Boundary, no Recognized Environmental Conditions (RECs) were identified within the Boulder Brush Boundary. Construction of Alternative 3 would be expected to use hazardous materials, as with the Project. These materials would include petroleum products and “off-the-shelf” substances, which could include oil and grease, or ethylene glycol for use during construction and for vehicles. Waste would consist primarily of wood forms used for concrete pad construction and scrap metal steel from support structures construction. As with the Project, Alternative 3 would be located approximately 5 miles from the nearest school (Clover Flat Elementary School) (Section 2.5, Hazards and Hazardous Materials). Implementation of **M-HZ-1** to prepare a Hazardous Materials Management Plan would also be required of this alternative. Therefore, potential construction-related impacts from hazards and hazardous materials under this alternative would be less than significant with mitigation incorporated, similar to the Project.

Operation: Operation of Alternative 3 would require use of petroleum maintenance products and “off-the-shelf” substances, similar to the Project. Compliance with applicable regulations and implementation of a Spill Prevention, Control, and Countermeasures Plan and would address potential impacts from operation of Alternative 3. The gen-tie line under Alternative 3 would be in similar proximity to the Jacumba Airport, located approximately 9 miles to the southeast, as under

the Project. Therefore, operational impacts to workers and the public under this alternative resulting from hazards and hazardous materials would be less than significant, similar to the Project.

Hydrology and Water Quality

The Boulder Brush Corridor is located in the Anza-Borrego Hydrologic Unit, and the Salton Sea Transboundary Watershed Management Area. Seven existing groundwater wells (Wells 1–7) were identified on the Boulder Brush Boundary during a site reconnaissance conducted June 2018. Four of the seven wells (Wells 2, 5, 6, and 7) are in good condition and can be used for groundwater monitoring and/or aquifer testing (provided that a well pump is installed), while three of the wells (Wells 1, 3, and 4) are evidently old, filled with debris, and are in poor condition. Well yields for on-site wells with completion reports and in good condition range from 5 to 24 gallons per minute (gpm), with an average well yield of approximately 13 gpm. The Boulder Brush Corridor does not contain any Federal Emergency Management Agency flood hazards, is not downstream of a dam and thus would not be subject to inundation in the event of a dam failure, and is not subject to seiche or tsunami (due to the great distance to the ocean or large body of water) (see Section 3.1.5, Hydrology and Water Quality).

Construction: Construction under Alternative 3 could result in short-term impacts on surface water quality through activities such as clearing and grading, concrete pouring, painting, and asphalt surfacing. Pollutants associated with construction activities that could degrade water quality include soils, debris, other materials generated during clearing; fuels and other fluids associated with the equipment used for construction; paints; other hazardous materials; concrete slurries; and asphalt materials. Sediment is often the most common pollutant associated with construction sites because of the associated earth-moving activities and areas of exposed soil. Hydrocarbons such as fuels, asphalt materials, oils, and hazardous materials such as paints and concrete slurries discharged from construction sites could also impact aquatic plants and animals downstream. Debris and trash could be washed into existing storm drainage channels to downstream surface waters and could impact wildlife and aesthetic value. However, as with the Project, a Stormwater Pollution Prevention Plan would be implemented for Alternative 3 that includes BMPs to minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff. Water demand for construction would be satisfied with water from the On-Reservation groundwater wells subject to PDF-HY-1, Jacumba Community Services District (JCS D) subject the applicable Groundwater Mitigation Monitoring Program, or reclaimed water from Padre Dam Municipal Services District (PDMWD), each with sufficient water available (see Section 3.1.5). Therefore, potential construction-related impacts to hydrology and water quality under this alternative would be less than significant, similar to the Project.

Operation: Alternative 3 would result in the operation of the gen-tie line and ancillary infrastructure on private lands. As with the Project, operation would be in accordance with applicable regulations, requiring routine stormwater monitoring, abatement of any trash/debris, and general good housekeeping practices. As such, potential operation-related impacts to hydrology and water quality under this alternative would be less significant, similar to the Project.

Land Use and Planning

The Boulder Brush Boundary is located entirely on privately owned land in the McCain Valley area of unincorporated San Diego County. Public lands managed by BLM are located immediately west, north, and east of the Boulder Brush Boundary. The surrounding area, also includes the communities of Boulevard, Manzanita, and Live Oak Springs, can be characterized as a predominantly rural landscape featuring large-lot ranches and single-family homes with a mixture of recreational opportunities and vast areas of undeveloped lands. Recent developments have resulted in a variable physical setting that includes rural and major infrastructure elements, including the 500 kV Sunrise Powerlink, the Tule Wind Farm, and the Kumeyaay Wind Farm (see Section 3.1.6, Land Use and Planning).

Construction: Alternative 3 would result in the placement of gen-tie line pole structures and associated access roads within the Boulder Brush Boundary. The same land use regulations would apply to both the Project and Alternative 3. This alternative would not divide an existing community or conflict with an established land use plan. Therefore, potential construction-related impacts to land use and planning under this alternative would be less than significant, similar to the Project.

Operation: Alternative 3, as with the Project, would occur adjacent to other operating transmission infrastructure facilities. The private lands that would be crossed by the alternative gen-tie line alignment are also in an area designated by the County for wind energy development. Therefore, potential operational impacts related to land use under this alternative would be less than significant, similar to the Project.

Noise

The primary existing noise source within the Project Area is existing operating wind turbines from the Tule Wind Project located adjacent to the Boulder Brush Boundary to the north, northwest, and east, and the Kumeyaay Wind Project turbines located on Tribal land southwest of the Boulder Brush Boundary. Vehicular traffic also contributes to the ambient noise environment in areas near I-8. Other existing noise sources include noise from rural residential land uses. Sound from distant wind turbines, distance traffic, birds, and distant aircraft contribute to the ambient noise environment.

Construction: Construction activities, such as blasting or grading, can generate noise that could impact sensitive receptors. Construction activities associated with Alternative 3 would be similar to the Project, including similar in location of activities, and could also cause temporary significant increases in the outdoor ambient sound environment. As such, potential construction-related noise impacts under this alternative would be less than significant with implementation of **M-N-1**, similar to the Project.

Operation: Operation of Alternative 3 would be conducted in accordance with County noise limits, as with the Boulder Brush Facilities under the Project. The location of known sensitive receptors in relationship to the Alternative 3 gen-tie alignment are the same as under the Project because noise generating facilities (high-voltage substation and switchyard) would be in the same locations. The location of the gen-tie line itself includes a variation of only approximately a quarter mile compared to the Project. As such, impacts of Boulder Brush Facilities under this alternative from operational noise would be less than significant, similar to the Boulder Brush Facilities under the Project.

Public Services

CAL FIRE has the primary responsibility for wildfire protection within state responsibility areas. The Campo Reservation Fire Protection District fire station is the closest fire station, located on the Reservation. The San Diego County Fire Authority and CAL FIRE are co-located at Station 47 in Boulevard (refer to Section 2.5 for more information on the existing fire hazard within the Boulder Brush Boundary). Police protection on the Boulder Brush Boundary is served by the County Sheriff's Department, California Highway Patrol, and U.S. Customs and Border Protection. The Mountain Empire Unified School District serves the area. The nearest branch of the County library system is the Jacumba branch, located approximately 5 miles northwest of the Boulder Brush Boundary (Section 3.1.8, Public Services).

Construction: As with the Project, construction of Alternative 3 would require implementation of a Construction Fire Prevention Plan (CFPP) for private lands. The CFPP would require the contribution of funds to the local fire and emergency response authorities, and ensure that fire protection services are able to meet demand generated by this alternative. As with the Project, this alternative would not result in the need for additional police protection services or expanded facilities that might result in physical environmental impacts. During construction and decommissioning, the daily local population would temporarily increase due to the construction workforce; however, as with the Project, this increase would be temporary and not result in a need for additional fire or sheriff staffing. Therefore, potential construction-related impacts on public services under this alternative would be less than significant, similar to the Project.

Operation: Operation of Alternative 3 would be conducted in compliance with an FPP on private lands, as with the Project, to address any potential hazards associated with fire risk. The operation would not result in a substantial increase in population growth and would not require the construction of a new fire, police, or school facility. Therefore, potential operation-related impacts on public services under this alternative would be less than significant, similar to the Project.

Traffic and Transportation

Regional access to the Boulder Brush Boundary is provided by I-8. Local access to Boulder Brush Boundary would be provided via Ribbonwood Road. Other paved roads in the vicinity are Clements Street and Opalocka Road. Unpaved roads in the vicinity include Lost Valley Road and McCain Valley Road. It is anticipated that Ribbonwood Road would be the primary local roadway that is used for access during construction and operation of the Boulder Brush Facilities (see Section 2.8, Traffic and Transportation). Jacumba Airport, operated by the County, is located approximately 9 miles southeast of the Boulder Brush Boundary. The airport is unattended and unlighted and is used mainly as an operation area for gliders, especially on weekends (County of San Diego 2018).

Construction: Alternative 3 would involve construction worker (personnel) trips in passenger vehicles/light trucks, and equipment, material, and water delivery trips made in heavy vehicles (trucks), as with the Project. As such, construction traffic, although temporary, would present the greater amount of generated trips on local roadways. As with the Project, construction of this alternative would result in a temporary increase in traffic by construction personnel accessing the Boulder Brush Boundary from Ribbonwood Road and I-8. Construction traffic would be addressed through the implementation of a Traffic Control and Management Plan. The County-required Traffic Control and Management Plan would address the increased traffic anticipated on local area roadways during construction. Implementation of a Traffic Control and Management Plan would ensure safe and efficient traffic flow in the area, and would contain measures for construction noticing, signage, and policy guidelines. As such, potential construction-related impacts to transportation under this alternative would be less than significant, similar to the Project.

Operation: As with the Boulder Brush Facilities under the Project, a negligible increase in traffic on roadways in the area would result from operations and maintenance under this alternative. As such, potential operation-related impacts to transportation and traffic under this alternative would be less than significant, similar to the Project.

Tribal Cultural Resources

The Project Site is located in the area of the County that was traditionally used by Kumeyaay Native Americans. Tribal Cultures Resources were identified within the Area of Potential Effects (APE) for the Project; however, no Tribal Cultural Resources were identified within the ADI for the Project.

Construction: Alternative 3 would result in a smaller development footprint. Therefore, construction-related impacts on Tribal cultural resources under this alternative may be less than the Project. However, similar to the Project, there is the potential for inadvertent discovery of unknown TCRs during construction. With implementation of **M-TCR-1** through **M-TCR-3** impacts to Tribal cultural resources under this alternative potential would be less than significant, similar to the Project.

Operation: Once in operation, Alternative 3 would not involve additional ground-disturbing activities that could impact potential archaeological resources outside of the ADI. Operation of Alternative 3 would have a less than significant impact on Tribal cultural resources, similar to the Project.

Utilities and Service Systems

Potential sources of water in the vicinity of the Boulder Brush Boundary consist of groundwater from wells on the Reservation, local groundwater supplies (predominantly fractured rock aquifers) of non-potable water from the JCSD, and recycled water from the PDMWD. The closest County-designated transfer station to the Boulder Brush Boundary is the Waste Management Refuse and Recycling Center in El Cajon, approximately 56 miles away. Four permitted active landfills are located within San Diego County with remaining capacity. The two nearest landfills to the Boulder Brush Boundary are the Sycamore Landfill in Santee (approximately 57 miles to the northwest) and the Otay Landfill in Chula Vista (approximately 56 miles to the west) (County of San Diego 2017).

Construction: During construction of Alternative 3, water would be used for road construction, foundations, dust suppression, and fire protection. Daily water use would vary depending on the weather conditions and time of year, both of which affect the need for dust control. Hot, dry, windy conditions would necessitate greater amounts of water. Tanker trucks would apply water to construction areas where needed to aid in road compaction and reduce construction-generated dust. Under Alternative 3, the estimated water use would be nominally less than the estimated water for the Project since there would be a reduction in need of approximately 1.1 miles of decomposed granite access roads for pole structures. As with the Project, this alternative would use water from the JCSD with back-up water from the PDMWD, which would be non-potable recycled water. Portable toilets would be provided during construction to address wastewater needs. As with the Project, waste generated by construction of this alternative would consist mainly of concrete waste from foundation construction; wood waste from wooden forms used for concrete pads; scrap metal; wood; steel; and debris. Additional waste could include erosion-control materials, such as straw bales and silt fencing, and packaging materials for electrical infrastructure equipment. Adequate capacity is available at local landfills to accommodate construction waste. Therefore, potential construction-related impacts on utilities and service systems under this alternative would be less than significant, similar to the Project.

Operation: As with the Boulder Brush Facilities under the Project, this alternative would not require water for operations except for water needed to refill the water tanks dedicated for firefighting purposes, as needed for emergency response. Therefore, potential operation-related impacts on utilities and service systems under this alternative would be less than significant, similar to the Project.

Wildfire

The Boulder Brush Boundary is primarily located in a Very High Fire Hazard Severity Zone, as statutorily designated by CAL FIRE (CAL FIRE 2007). In addition, the Boulder Brush Boundary is located in an area with historically fire adapted vegetation communities including chaparral, scrub, and oak woodlands, which are vegetation communities that experience occasional wildfire and can burn in an extreme manner under the occasional severe fire weather (dry and windy) conditions that occur in the area. Based on the region's fuels, fire history, and expected fire behavior, moderate intensity fires would be expected to occur in the area.

Construction: Under Alternative 3, a portion of the gen-tie line on private lands would be located along an alternative alignment on private land within the Boulder Brush Boundary. The southern portion of the gen-tie route on private lands would follow an alternate route to the west. The northern portion of the gen-tie route would follow the same alignment as the Project. Although this alternate gen-tie route would modestly increase the total length of the Off-Reservation gen-tie line from approximately 3.5 miles to 3.7 miles, there would not be an increase in the number of required pole structures. In addition, there would be one less pull site required due to a reduction in need for one angle structure, and there would be a reduction of approximately 1.1 miles of decomposed granite roads required to access pole structures since this alternative route would align much closer to the main east/west decomposed granite access road. Therefore, even though the overall length of the Off-Reservation gen tie line would increase by approximately 0.2 miles, there would be an approximately 8- to 10-acre net decrease in disturbed acres associated with construction of the Boulder Brush Facilities. Although disturbance area would be reduced under this alternative, the Boulder Brush Facilities would still be constructed and potential wildfire ignition sources due to construction activities would be similar to that of the Project. With implementation of an FPP, and mitigation measure **M-BI-14** impacts related to wildfire as a result of Alternative 3 would be less than significant, similar to the Project.

Operation: As described under the construction scenario, a portion of the gen-tie line on private lands would be located along an alternative alignment on private land within the Boulder Brush Boundary. Under this alternative, the Boulder Brush Facilities would include the same potential ignition sources (high-voltage substation, switchyard and gen-tie line) as the Project. With implementation of an FPP, and mitigation measure **M-BI-14**, impacts related to wildfire as a result of Alternative 3 would be less than significant, similar to the Project.

4.3.4 Alternative 4: Underground Gen-Tie Line within Boulder Brush Boundary Alternative

Alternative 4, Underground Gen-Tie Line within Boulder Brush Boundary Alternative, would result in implementation of the Campo Wind Facilities as described under the Project; however, the Off-Reservation 230 kV gen-tie line from the Reservation Boundary to the high-voltage substation and switchyard across the private lands would be underground rather than overhead. The underground gen-tie alignment would attempt to follow the same route as the Off-Reservation 230 kV gen-tie line, as feasible (provided no previously unknown subsurface condition arises during either pre-construction geotechnical investigations or underground gen-tie line construction). The high-voltage substation, 500 kV switchyard and incoming/outgoing connection lines, and the main paved access road would be the same as described for the Boulder Brush Facilities (refer to Figure 4-2, Alternative 4: Underground Gen-Tie Line with Boulder Brush Boundary Alternative).

Construction of the high voltage underground gen-tie line alternative would require additional construction activities when compared to construction of the overhead gen-tie line described for the Boulder Brush Facilities under the Project. These additional construction activities include additional trenching, excavating, blasting, grading and vegetation clearing and are anticipated to result in the following:

- Increased ground disturbance
- Increased dust, noise, and construction machinery and equipment emissions
- Increased concrete production and water demand
- Increased construction traffic
- Increased construction waste materials

Alternative 4 would require an approximately 3.5-mile-long, continuous trench of approximately 3.5 to 5 feet wide and approximately 5 to 7 feet deep to construct the underground high voltage transmission system. At approximately every 2,000 feet along the route, the trench would need to be widened and deepened to accommodate construction of a concrete splice vault which can be up to 8 feet wide by 8 feet tall and 24 feet long. Concrete splice vaults are required to provide areas for splicing the segments of the conductor cables during construction and to serve as permanent access points for routine line maintenance during operations.

Trenching would require additional temporary ground disturbance on either side of the trench for placement of construction supplies and equipment, the stockpiling of excavated material, and to provide access for the construction machinery and equipment. While the trenching activities would, to the extent possible, follow the alignment of the access road, these activities could fall

outside of the disturbance area associated with the access road resulting in additional disturbed area. The additional disturbance could result in increased loss of natural vegetation and modification of terrain (e.g., alteration of topography). Required excavation, grading and vegetation clearing along the underground gen-tie line route would be greater than for construction of the overhead gen-tie line route for the Boulder Brush Facilities under the Project.

While the soil profiles may not be consistent throughout the entire 3.5-mile underground gen-tie route, the geotechnical investigation (Appendix M) conducted at the high-voltage substation and switchyard area suggests that the open trench excavation associated with Alternative 4 may encounter areas that could require hard rock excavation techniques including controlled blasting and/or the use of an impact hammer (i.e., hoe ram), both of which could cause an increase in noise and dust emissions relative to construction of the overhead gen-tie line route for the Boulder Brush Facilities. In addition, the underground gen-tie line route could have to be re-routed and/or require additional, unanticipated blasting in the event that large, unexposed boulders are discovered in the path during the course of construction.

While the overall 14-month construction period for the Project would not need to be extended, Alternative 4 is anticipated to require a longer construction period than identified for the Off-Reservation overhead gen-tie line. Therefore, the increase in noise, dust and construction equipment emissions associated with this Alternative 4 could be compounded by the additional time required for construction of this alternative. While modeling for additional noise and air quality emissions has not been conducted, due to the overall duration and increased amount of additional disturbance and construction equipment required to construct an underground 230 kV gen-tie line, both noise and air emissions are expected to be greater than that described for construction of the overhead gen-tie line route for the Boulder Brush Facilities under the Project.

Underground high voltage transmission line installations require that the high-voltage conductor cables and associated communications cables be installed in concrete encased polyvinyl chloride (PVC) duct banks for the entire length of the underground facilities. The amount of concrete required (and water needed to mix the concrete) for both the duct bank and splice vaults would be greater than the amount of concrete required for the Off-Reservation overhead gen-tie pole structure foundations. Similarly, due to the increased ground disturbance required to construct an underground 230 kV gen-tie line, the water needed for dust suppression during construction is expected to be greater than described for dust suppression during construction of the overhead gen-tie line route.

Since Alternative 4 would require additional equipment and supplies than described for construction of the Off-Reservation overhead gen-tie line, it could generate an increase in construction traffic. Such additional trips would be associated with equipment and materials deliveries as well as water trucks. In addition, underground, high-voltage transmission lines often

require fluidized thermal backfill for backfilling the open trench after the underground system has been constructed. This thermal backfill is required to help dissipate the heat that is generated when underground high-voltage transmission lines are in operation. Additional construction traffic could be produced by both thermal backfill deliveries as well as the equivalent off-site hauling for disposal of excavated material replaced by the thermal backfill.

Alternative 4 could create increased construction waste compared to that described for construction of the overhead gen-tie line route for the Boulder Brush Facilities under the Project. The duct banks and splice vaults would require the use of wood, nails and other waste-generating construction supplies needed to construct temporary concrete forms. Upon completion of construction, these supplies would be dismantled and hauled off-site to either a landfill or recycling facility.

Ability to Meet Project Objectives

Alternative 4 would meet the stated Project objectives, with the exception of objective 6 (economically feasible wind energy project).

Feasibility

Alternative 4 would be challenging to implement based on the additional construction requirements described above. These include the physical difficulties associated with the topography and potential to encounter boulders below the surface. In addition, the cost to underground high-voltage transmission lines is expected to be between 5 to 20 times greater than the cost of an overhead high-voltage transmission line due to the time, materials, specialized labor and installation processes that are required.

Comparison of the Effects of Alternative 4 to the Project

While undergrounding the 230 kV high-voltage Off-Reservation gen-tie line is addressed under this alternative, Project components on the Reservation would be the same as described under the Project and the analysis below addresses the change resulting from undergrounding the Off-Reservation gen-tie line on private lands only.

Aesthetics

Adverse effects typically associated with development include the loss of natural vegetation, removal of natural features with aesthetic value, modification of terrain (e.g., alteration of topography through grading), and/or introduction of contrasting elements within the existing landscape setting. The loss or degradation of significant visual features or views and the introduction of features that would significantly contrast with the visual character of an area or with the existing elements of form, line, color, or texture can be considered significant visual effects. Three primary viewer groups are afforded views of land within the Boulder Brush Corridor: residents, recreationists and motorists.

Within the viewshed, rural residences are concentrated south of the Boulder Brush Corridor, generally along Ribbonwood Road. Recreational opportunities in the Project Vicinity include off-highway-vehicle use (i.e., the Lark Canyon Off-Highway-Vehicle Area), camping, and trail-based recreation. Motorists on I-8, McCain Valley Road, Ribbonwood Road, Jewel Valley Road, Tierra del Sol, Opalocka Road, and a number of local roads in the Boulevard area are provided viewing opportunities to the McCain Valley area, including land within the Boulder Brush Corridor.

Construction: Alternative 4 would attempt to follow the same route as the Off-Reservation 230 kV gen-tie line, as feasible. While the length of the 3.5-mile gen-tie line (poles and cables) would no-longer be visible, the connection from overhead to underground lines require the construction of a transition structure, also known as a riser. A transition structure would be required at the location where the line extends below grade and at the location where it rises back above grade. These structures can be between 60 and 100 feet tall.

The increased number of construction vehicles, machinery and equipment required for installation of an underground 230 kV gen-tie line as well as the extended duration of construction activities (i.e., presence of construction equipment within the Boulder Brush Boundary) may be visible to residents, recreationists, and motorists at an increased level from that described for the Project.

The trenching, additional grading, and vegetation clearing required for implementation of Alternative 4 would result in additional temporary ground disturbance on either side of the trench for placement of construction supplies and equipment, stockpiling of excavated material, and to provide access for the construction machinery and equipment. This additional ground disturbance would be increased from that described for the Project and may be visible to primary viewer groups. As with the Project, construction impacts associated with aesthetics under this alternative would be less than significant.

Operation: Alternative 4 would underground the approximately 3.5 miles of Off-Reservation gen-tie line. While vertical support structures for the overhead gen-tie would no longer be visible, transition structures required to transition the gen-tie line from below grade to above grade would be introduced. The vertical elements associated with the high-voltage substation and the switchyard with loop in/out legs would be the same as described for the Boulder Brush Facilities under the Project. The paved access road and fuel modification clearances around the high-voltage substation and the switchyard with loop in/out legs would also be the same as described for the Project.

Alternative 4 would reduce the potential to alter existing views from public vantage points to the McCain Valley landscape that include the Boulder Brush Boundary. Alternative 4 would result in less vertical alteration of the local landscape compared to the Project due to reduced vertical elements; however, it would result in visual contrast with existing features in the landscape, including vegetation and landforms along the underground route. Project impacts to visual quality

and/or quality, and community character would remain significant and unavoidable. Operational aesthetic impacts resulting from Alternative 4 would be reduced, to less than significant for Boulder Brush Facilities.

Agricultural Resources

Land within the Boulder Brush Boundary is not an important agricultural resource as determined by the County Department of Planning and Land Use's Local Agricultural Resource Assessment Model. Land within the Boulder Brush Boundary has not been historically used for irrigated agricultural production, and is not designated by the Department of Conservation as Prime Farmland or Farmland of Statewide Importance (see Section 3.1.1).

Construction: Alternative 4 would result in a similar permanent development footprint within the Boulder Brush Boundary compared to the Project, although would result in increased excavations and ground disturbance associated with construction and trenching for undergrounding the high-voltage transmission line. As land within the Boulder Brush Boundary is not an important agricultural resource, there would be no impact to locally significant agricultural resources or to Farmland of Statewide Importance. As such, construction-related agricultural impacts would be less than significant, similar to the Project.

Operation: As with the Project, operation of Alternative 4 would not impact local or state important agricultural resources. Therefore, operational impacts to agricultural resources resulting from this alternative would be less than significant, similar to the Project.

Air Quality

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and lead. Pollutants that are evaluated include VOCs, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. VOCs and NO_x are important because they are precursors to O₃.

Construction: As noted in Section 2.2, Air Quality, maximum daily Project construction emissions would exceed the daily threshold for criteria air pollutant NO_x. While the overall 14-month construction period for the Project would not need to be extended, Alternative 4 is anticipated to require a longer construction period than identified for the Off-Reservation overhead gen-tie line. Therefore, an increase in dust and construction equipment emissions associated with this Alternative 4 could be compounded by the additional time required for construction of the Off-Reservation gen-tie line. Increased construction activities are anticipated to include additional blasting, trenching and construction equipment, as well as soil movement storage and compaction. While modeling for additional air quality emissions has not been conducted, due to the extended

duration of the Off-Reservation gen-tie construction, and increased amount of ground disturbance and construction equipment required to construct an underground 230 kV gen-tie line, both dust and air emissions are expected to be greater than that described under the Project.

The intensity of air emissions and fugitive dust from site preparation and construction activities would be similar on days when all construction activities are occurring, though potentially more frequent maximum intensity days would result under this alternative. Therefore, construction impacts on air quality under this alternative would be increased compared to the Project. The duration of the Boulder Brush Facilities construction schedule would be longer under Alternative 4; thus, the total number of days criteria air pollutants would be emitted would also be increased associated with the Off-Reservation gen-tie line under Alternative 4 compared to the Project. The total Project duration would be similar under Alternative 4 compared to the Project, as would the maximum daily emissions, though the number of maximum days could be increased. **M-AQ-1** through **M-AQ-5** would reduce construction air quality impacts of Alternative 4 to less than significant, as it would for the Project.

Operation: As noted in Section 2.2, maximum daily Project operational emissions would not exceed the operational thresholds for VOCs, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Alternative 4 would result in the same operational impacts on air quality as the Project at the regional level.

Biological Resources

The Project would result in potentially significant short-term and long-term direct and/or indirect impacts to special-status plants, special-status wildlife species, and wildlife habitat, as well as long-term direct impacts to wildlife movement and migratory birds. All significant impacts of the Boulder Brush Facilities would be reduced to less than significant with implementation of mitigation measures.

Construction: Construction of Alternative 4 would result in the trenching for a gen-tie line below grade on private lands as well as installation of the high-voltage substation, switchyard and incoming/outgoing connection lines, and access roads. Trenching would result in an increased temporary disturbance footprint, including trenching across Tule Wash, which could result in an increase in temporary impacts to sensitive wetlands habitat increasing the associated mitigation required. As with the Project, **M-BI-1** through **M-BI-16** would be implemented, requiring preconstruction surveys, monitoring, revegetation of disturbed areas, prevention of invasive plant species, obtaining regulatory permits, and sediment control. Therefore, construction impacts on biological resources under this alternative would be increased in severity, though the same significance as the Project; less than significant with mitigation incorporated on private lands (see Section 2.3).

Operation: Once in operation, in the event there is a line failure, re-trenching could be required in order to gain access to repair the line. Therefore, operation of the underground Off-Reservation gen-tie line could have increased impacts to biological resources compared to the Project by requiring additional revegetation efforts. **M-BI-4, M-BI-7, M-BI-10, M-BI-11, M-BI-12, M-BI-13, M-BI-14, and M-BI-15** would require habitat mitigation for vegetation communities and habitats for special-status plant and wildlife species; sediment control; fire management; restricted access to the public; and prevention of invasive species. The underground gen-tie line on private lands would eliminate approximately 3.5 miles of overhead 230 kV transmission, reducing the potential for impacts to avian species during operation. Therefore, the level of significance would be the same as the Project (less than significant with mitigation incorporated).

Cultural Resources

Cultural resources are located within the Project's ADI, including prehistoric isolates, historic sites, prehistoric sites, and a site with both historic and prehistoric components.

Construction: Construction of Alternative 4 would result in greater temporary ground disturbance within the Boulder Brush Corridor as compared to the Project. Alternative 4 would require an approximately 3.5 mile-long, continuous trench approximately 3.5 to 5 feet wide and approximately 5 to 7 feet deep. In addition, at approximately every 2,000 feet along the route, the trench would need to be widened and deepened to accommodate construction of a concrete splice vault which can be up to 8 feet wide by 8 feet tall and 24 feet long. This trenching would require additional temporary ground disturbance on either side of the trench for placement of construction supplies and equipment, the stockpiling of excavated material, and to provide access for the construction machinery and equipment. In addition, there is the potential that the underground gen-tie line route would need to be re-routed and/or require additional, unanticipated blasting in the event that large, unexposed boulders are discovered in the path during the course of construction, contributing to an overall increased disturbance area.

As with the Project, construction could potentially result in impacts to known or unknown cultural resources. However, grading, trenching and potential blasting required for undergrounding a high voltage gen-tie line may impact subsurface resources. As described above, the subsurface disturbance in terms of both area and depth would be increased under this alternative. Therefore, the potential construction-related impacts to known or unknown cultural resources under this alternative would be greater compared to that described for the Project. As with the Project, **M-CR-1, M-CR-2, and M-CR-3** would be implemented to flag potentially sensitive areas, have an archaeological monitor on site, and preserve known human remains in situ. Under this Alternative, potential impacts would be increased compared to the Project due to the greater potential for disturbing known or unknown cultural resources; however, as with the Project, impacts would remain less than significant with mitigation incorporated.

Operation: Once in operation, the Project would, in the event there is a line failure then re-trenching would have to occur in order to repair the line. Such activities would not involve additional ground-disturbing activities that could impact potential archaeological resources outside of the ADI. Operation of Alternative 4 would have a less than significant impact on cultural resources, similar to the Project.

Geology and Soils

The Boulder Brush Corridor is located in the coastal foothill section of the Peninsular Ranges Geomorphic Province in the In-Ko-Pah Mountains. The McCain Valley, Lark Canyon, and numerous other small canyons and springs are present on the Boulder Brush Corridor. The Boulder Brush Corridor includes areas of steep slopes, prominent ridgelines, and rock outcroppings. Based on a literature review and site reconnaissance, the Boulder Brush Corridor is generally underlain by fill, alluvium, and granitic rock in various states of weathering. Fill soils were observed along the unpaved roads and on graded slopes. The Boulder Brush Boundary is not located within an Earthquake Fault Zone (see Section 3.1.3, Geology, Soils, and Seismicity), nor is it located in a County of San Diego Special Study Zone (County of San Diego 2007). Due to the dense nature of subsurface materials (mainly the shallow depth of granitic rock) within the Boulder Brush Boundary, potential for liquefaction and expansive soils is considered low. No landslides or related features are known to underlie or be adjacent to the Boulder Brush Boundary (see Section 3.1.3).

Construction: Construction of Alternative 4 would result in grading and soil disturbance in a location without potential geologic or soil stability concerns. As with the Project, implementation of standard BMPs and compliance with applicable regulations would result in less-than-significant geologic, soil, and seismicity impacts, similar to the Project.

Operation: Operation of Alternative 4 would result in underground gen-tie line on private lands as well as an above grade high-voltage substation, switchyard and incoming/outgoing connection lines, and access roads in an area with no documented geologic or soil stability issues. As with the Project, potential operation-related impacts from Alternative 4 related to geology and soils would be less than significant, similar to the Project.

Greenhouse Gas Emissions and Energy

Principal GHGs regulated under state and federal law include CO₂, CH₄, and N₂O. GHG emissions are measured in MT CO₂e, which accounts for the weighted global warming potential factors for CH₄ and N₂O. Energy sources would include emissions associated with building electricity. SDG&E would be the energy source provider for the Project. In 2016, 43% of the energy provided to SDG&E customers was from renewable sources, compared to 10% in 2009 (10% is the CalEEMod default value for SDG&E) (CEC 2017).

The Project is estimated to result in total operational emissions combined with amortized construction and vegetation removal GHG emissions would be 929 MT CO₂e per year, assuming a 30-year project life. Energy consumption of electricity, natural gas, and petroleum during construction of the Project would not cause an exceedance of any threshold or regulation (see Section 3.1.4, Greenhouse Gas Emissions).

Construction: Alternative 4 would result in greater temporary ground disturbance though a reduced permanent footprint compared to the Project and require an increased intensity of construction for the Off-Reservation gen-tie line related to trenching. Alternative 4 would generate increased GHG emissions resulting from trenching activities associated with undergrounding the gen-tie line. GHG emissions generated during construction of the Project would be short-term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Energy consumption of electricity, natural gas, and petroleum during construction of Alternative 4 is assumed to be similar to the Project, given the type and number of construction equipment. Therefore, construction impacts on GHG emissions and energy under this alternative would be greater, but would have the same significance as the Project: less than significant.

Operation: Total Project operational emissions, combined with amortized construction and vegetation removal GHG emissions, would be approximately 929 MT CO₂e per year, assuming a 30-year Project life (see Section 3.1.4), which would be approximately the same under Alternative 4. Therefore, the operational impacts on GHG emissions under this alternative would be the same as under the Project: impacts would be less than significant.

Hazards and Hazardous Materials

A Phase I ESA indicated that much of the property within the Boulder Brush Boundary appears to have remained vacant, undeveloped land since 1939, and that no recognized environmental conditions were identified in connection with the site. The southwestern portion of the Boulder Brush Boundary may have been used as ranching land in the past, although the dates of this potential land use are unknown. A structure, presumed to be a residence potentially associated with ranching activity, was depicted in historical topographic maps on the southern portion of the Boulder Brush Boundary starting in 1939. A feature labeled “Airway Beacon” was depicted on the northern portion of the Boulder Brush Boundary on historical topographic maps from 1959 through 1997 (Appendix F-2). The Boulder Brush Boundary is located outside of Jacumba Airport’s airport influence area. Additionally, there are no active private airstrips within the Project Vicinity (San Diego County Airport Land Use Commission 2006). The Boulder Brush Boundary is located in a High to Very High Fire Hazard Severity Zone, as statutorily designated by CAL FIRE (2007).

Construction: Alternative 4 would result in the undergrounding of the gen-tie line within a property that has been evaluated in a Phase I ESA. The Phase I ESA concluded that while points of interest and potential site hazards were identified within the Boulder Brush Boundary no RECs were identified on site. Construction of Alternative 4 would be expected to use hazardous materials, as with the Project. These materials would include petroleum products and “off-the-shelf” substances, which could include oil and grease, or ethylene glycol for use during construction and for vehicles. Waste would consist primarily of wood forms used for concrete splice vault and duct bank construction, excess PVC pipe and conductor cable and scrap metal steel from transition structures (risers) construction. As with the Project, Alternative 4 would be located approximately 5 miles from the nearest school (Clover Flat Elementary School) (Section 2.5). Implementation of **M-HZ-1** to prepare a Hazardous Materials Management Plan would also be required of this alternative. Therefore, potential construction-related impacts from hazards and hazardous materials under this alternative would be less than significant with mitigation incorporated, similar to the Project.

Operation: Operation of Alternative 4 would require use of petroleum maintenance products and “off-the-shelf” substances, similar to the Project. Compliance with applicable regulations and implementation of a Spill Prevention, Control, and Countermeasures Plan would address potential impacts from operation of Alternative 4. Therefore, operational impacts to workers and the public under this alternative resulting from hazards and hazardous materials would be less than significant, similar to the Project.

Hydrology and Water Quality

The Boulder Brush Corridor is located in the Anza-Borrego Hydrologic Unit, and the Salton Sea Transboundary Watershed Management Area. Seven existing groundwater wells (Wells 1–7) were identified on the properties within the Boulder Brush Boundary during a site reconnaissance conducted June 2018. Four of the seven wells (Wells 2, 5, 6, and 7) are in good condition and can be used for groundwater monitoring and/or aquifer testing (provided that a well pump is installed), while three of the wells (Wells 1, 3, and 4) are evidently old, filled with debris, and are in poor condition. Well yields for on-site wells with completion reports and in good condition range from 5 to 24 gpm with an average well yield of approximately 13 gpm. The Boulder Brush Corridor does not contain any Federal Emergency Management Agency flood hazards, is not downstream of a dam and thus would not be subject to inundation in the event of a dam failure, and is not subject to seiche or tsunami (due to the great distance to the ocean or large body of water) (see Section 3.1.5).

Construction: Construction under Alternative 4 could result in short-term impacts on surface water quality through activities such as clearing and grading, concrete pouring, painting, and asphalt surfacing. Pollutants associated with construction activities that could degrade water

quality include soils, debris, other materials generated during clearing; fuels and other fluids associated with the equipment used for construction; paints; other hazardous materials; concrete slurries; and asphalt materials. Sediment is often the most common pollutant associated with construction sites because of the associated earth-moving activities and areas of exposed soil. Hydrocarbons such as fuels, asphalt materials, oils, and hazardous materials such as paints and concrete slurries discharged from construction sites could also impact aquatic plants and animals downstream. Debris and trash could be washed into existing storm drainage channels to downstream surface waters and could impact wildlife and aesthetic value. However, as with the Project, a Stormwater Pollution Prevention Plan would be implemented for Alternative 4 that includes BMPs to minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff.

The amount of water required to mix the concrete for both the duct bank and splice vaults would be greater than the amount required for the Off-Reservation overhead gen-tie pole structure foundations. Similarly, due to the increased ground disturbance required to construct an underground 230 kV gen-tie line, the water needed for dust suppression during construction is expected to be greater than described for dust suppression during construction of the overhead gen-tie line route. Water demand for construction would be satisfied with water from the On-Reservation groundwater wells subject to PDF-HY-1, JCSD subject the applicable Groundwater Mitigation Monitoring Program, or reclaimed water from PDMWD, each with sufficient water available (see Section 3.1.5). Therefore, potential construction-related impacts to hydrology and water quality under this alternative would be less than significant, similar to the Project.

Operation: As with the Project, operation of Alternative 4 would be in accordance with applicable regulations, requiring routine stormwater monitoring, abatement of any trash/debris, and general good housekeeping practices. As such, potential operation-related impacts related to hydrology and water quality under this alternative would be less than significant, similar to the Project.

Land Use and Planning

The Boulder Brush Boundary is located entirely on privately owned land in the McCain Valley area of unincorporated San Diego County. Public lands managed by BLM are located immediately west, north, and east of the site. The surrounding area, which includes the communities of Boulevard, Manzanita, and Live Oak Springs, can be characterized as a predominantly rural landscape featuring large-lot ranches and single-family homes with a mixture of recreational opportunities and vast areas of undeveloped lands. Recent developments have resulted in a variable physical setting that includes rural and major infrastructure elements, including the 500 kV Sunrise Powerlink, the Tule Wind Farm, and the Kumeyaay Wind Farm (see Section 3.1.6).

Construction: Alternative 4 would result in the undergrounding of the gen-tie line within the Boulder Brush Boundary. The same land use regulations would apply to both the Project and Alternative 4. This alternative would not divide an existing community or conflict with an established land use plan. Therefore, potential construction-related impacts to land use and planning under this alternative would be less than significant, similar to the Project.

Operation: Alternative 4, as with the Project, would occur adjacent to other operating transmission infrastructure facilities. The private lands that would be crossed by the alternative gen-tie line alignment are also in an area designated by the County for wind energy development. Therefore, potential operational impacts related to land use under this alternative would be less than significant, similar to the Project.

Noise

The primary existing noise source within the Project Vicinity is existing operating wind turbines from the Tule Wind Project located adjacent to the land inside the Boulder Brush Boundary to the north, northwest, and east, and the Kumeyaay Wind Project turbines located on Tribal land southwest of the Boulder Brush Boundary. Vehicular traffic also contributes to the ambient noise environment in areas near I-8. Other existing noise sources include noise from rural residential land uses. Sound from distant wind turbines, distance traffic, birds, and distant aircraft contribute to the ambient noise environment.

Construction: Construction activities, such as blasting or grading, can generate noise that could impact sensitive receptors. Construction activities associated with Alternative 4 would be similar to the Project, including similar locations of activities, and also could cause temporary significant increases in the outdoor ambient sound environment. Trenching required to underground the gen-tie line would generate similar noise as other equipment associated with construction of either the Project or Alternative 4. However, increased blasting would likely result to achieve the underground alignment, which would result in increased impulsive noise. As such, potential construction-related noise impacts under this alternative would be increased although the level of significance would be the same compared to the Project; less than significant with implementation of **M-N-1**.

Operation: Alternative 4 would be conducted in accordance with County noise limits, as with the Project. The location of known sensitive receptors in relationship to the Boulder Brush Boundary and operational noise sources of Alternative 4 are the same as under the Project. No noise associated with the gen-tie line would result under this alternative because the gen-tie line would be underground; however, no significant noise impacts from the gen-tie line would result from the Project. As such, impacts of this alternative from operational noise resulting from Boulder Brush Facilities would be less than significant, similar to the Boulder Brush Facilities under the Project.

Public Services

CAL FIRE has the primary responsibility for wildfire protection within state responsibility areas, which include Cleveland National Forest. The Campo Reservation Fire Protection District fire station is the closest fire station, located on the Reservation. The San Diego County Fire Authority and CAL FIRE are co-located at Station 47 in Boulevard (refer to Section 2.5 for more information on the existing fire hazard on the Boulder Brush Boundary). Police protection on the Boulder Brush Boundary is served by the County Sheriff's Department, California Highway Patrol, and U.S. Customs and Border Protection. The Mountain Empire Unified School District serves the area. The nearest branch of the County library system is the Jacumba branch, located approximately 5 miles northwest of the Boulder Brush Boundary (Section 3.1.8).

Construction: As with the Project, construction of Alternative 4 would require implementation of a CFPP for private lands. The CFPP would require the contribution of funds to the local fire and emergency response authorities, and ensure that fire protection services are able to meet demand generated by this alternative. As with the Project, this alternative would not result in the need for additional police protection services or expanded facilities that might result in physical environmental impacts. During construction and decommissioning, the daily local population would temporarily increase due to the construction workforce; however, as with the Project, this increase would be temporary and not result in a need for additional fire or sheriff staffing. Therefore, potential construction-related impacts on public services under this alternative would be less than significant, similar to the Project.

Operation: Operation of Alternative 4 would be conducted in compliance with an FPP on private lands, as with the Project, to address any potential hazards associated with fire risk. The operation would not result in a substantial increase in population growth and would not require the construction of a new fire, police, or school facility. Therefore, potential operation-related impacts on public services under this alternative would be less than significant, similar to the Project.

Traffic and Transportation

Regional access to the Project Site is provided by I-8. Local access to Boulder Brush Boundary would be provided by Ribbonwood Road. Other paved roads in the vicinity are Clements Street and Opalocka Road. Unpaved roads in the vicinity include Lost Valley Road and McCain Valley Road. It is anticipated that Ribbonwood Road would be the primary local roadway that is used for access during construction and operation of the Boulder Brush Facilities (see Section 2.8). Jacumba Airport, operated by the County, is located approximately 9 miles southeast of the Project Site. The airport is unattended and unlighted and is used mainly as an operation area for gliders, especially on weekends (County of San Diego 2018).

Construction: Alternative 4 would involve construction worker (personnel) trips in passenger vehicles/light trucks, and equipment, material, and water delivery trips made in heavy vehicles (trucks), as with the Project. As such, construction traffic, although temporary, would present the greater number of generated trips on local roadways. While some additional construction workers could be needed to perform the trenching to underground the gen-tie line, the increase would not be substantial and daily construction worker levels would be comparable to the Project. As with the Project, construction of this alternative would result in a temporary increase in traffic by construction personnel accessing the Boulder Brush Boundary from Ribbonwood Road and I-8. Construction traffic would be addressed through the implementation of a Traffic Control and Management Plan. The County-required Traffic Control and Management Plan would address the increased traffic anticipated on local area roadways during construction. For example, implementation of a Traffic Control and Management Plan would ensure the safe and efficient traffic flow in the area, and would contain measures for construction noticing, signage, and policy guidelines. As such, potential construction-related impacts to transportation under this alternative would be less than significant, similar to the Project.

Operation: As with the Boulder Brush Facilities, a negligible increase in traffic on roadways in the area would result from operations and maintenance under this alternative. As such, potential operation-related impacts to transportation and traffic would be less than significant, similar to the Project.

Tribal Cultural Resources

The Project Site is located in the area of the County that was traditionally used by Kumeyaay Native Americans. Tribal Cultures Resources were identified within the APE for the Project; however, no Tribal Cultural Resources were identified within the ADI for the Project.

Construction: Alternative 4 would result in an increase in temporary disturbance with increased subterranean (vertical) disturbance to underground the Off-Reservation gen-tie line, although a reduced permanent footprint. Therefore, impacts would be increased compared to the Project due to the greater potential for disturbing unknown Tribal cultural resources during undergrounding of the Off-Reservation gen-tie line. However, as with the Project, implementation of mitigation measures **M-TCR-1** through **M-TCR-3** would reduce the potential for impacts to Tribal cultural resources.

Operation: Once in operation, Alternative 4 would not involve additional ground-disturbing activities that could impact potential archaeological resources outside of the temporary disturbed area. Operation of Alternative 4 would have a less than significant impact on Tribal cultural resources, similar to the Project.

Utilities and Service Systems

Potential sources of water in the vicinity of the Boulder Brush Boundary consist of groundwater from wells on the Reservation, local groundwater supplies (predominantly fractured rock aquifers) from the JCSD, and recycled water from the PDMWD. The closest County-designated transfer station to Boulevard and the Boulder Brush Boundary is the Waste Management Refuse and Recycling Center in El Cajon, approximately 56 miles away. Four permitted active landfills are located within San Diego County with remaining capacity. The two nearest landfills to the Boulder Brush Boundary are the Sycamore Landfill in Santee (approximately 57 miles to the northwest) and the Otay Landfill in Chula Vista (approximately 56 miles to the west) (County of San Diego 2017).

Construction: During construction of Alternative 4, water would be used for road construction, concrete mixing, dust suppression, and fire protection. Daily water use would vary depending on the weather conditions and time of year, both of which affect the need for dust control. Hot, dry, windy conditions would necessitate greater amounts of water. Tanker trucks would apply water to construction areas where needed to aid in road compaction and reduce construction-generated dust. Alternative 4 would require increased water associated with additional trenching and soil movement activities, as well as increased amounts for concrete use for conduit encasement and splice vaults. The total water demand would be increased compared to the Project. Therefore, the estimated water use would be greater than the estimated water use for the Project. As with the Project, this alternative would use water from the JCSD with back-up water from the PDMWD, which would be non-potable recycled water. Portable toilets would be provided during construction to address wastewater needs. As with the Project, waste generated by construction of this alternative would consist mainly of concrete waste from foundation construction, wood waste from wooden forms used for foundation construction, scrap metal, wood, steel, and debris. Additional waste could include erosion-control materials, such as straw bales and silt fencing, and packaging materials for electrical infrastructure equipment. Adequate capacity is available at local landfills to accommodate construction waste. Therefore, potential construction-related impacts on utilities and service systems under this alternative would be less than significant, similar to the Project.

Operation: As with the Boulder Brush Facilities under the Project, this alternative would not require water for operations except for water needed to refill the water tanks dedicated for firefighting purposes, as needed for emergency response. Therefore, potential operation-related impacts on utilities and service systems under this alternative would be less than significant, similar to the Project.

Wildfire

The Boulder Brush Boundary is primarily located in a Very High Fire Hazard Severity Zone, as statutorily designated by CAL FIRE (CAL FIRE 2007). In addition, the Boulder Brush Boundary

is located in an area with historically fire adapted vegetation communities including chaparral, scrub, and oak woodlands, which are vegetation communities that experience occasional wildfire and can burn in an extreme manner under the occasional severe fire weather (dry and windy) conditions that occur in the area. Based on the region's fuels, fire history, and expected fire behavior, moderate intensity fires would be expected to occur in the area.

Construction: Under Alternative 4, the 230 kV gen-tie line from the Reservation Boundary to the proposed high-voltage substation and switchyard across the private lands would be underground rather than overhead. The underground gen-tie alignment would follow the same route as the Project gen-tie line on private lands, to the extent possible. The high-voltage substation, 500 kV switchyard and incoming/outgoing connection lines, and the paved access road would be the same as described for the Project. As all Boulder Brush Facilities would still be constructed under this alternative, potential wildfire ignition sources due to construction activities would be similar to that of the Project. Similar to the Project, with implementation of an FPP, additional fire protection measures and emergency response measures would be enforced, and **M-BI-14** would be implemented to reduce impacts associated with the possibility of wildfires.

Operation: As described under the construction scenario, the gen-tie line from the Reservation Boundary to the proposed high-voltage substation and switchyard across the private lands would be underground rather than overhead. As the Boulder Brush gen-tie line would not be exposed under this alternative, potential wildfire ignition sources due to operational activities would be less than that of the Project. Boulder Brush Facilities including the High-voltage Substation, Switchyard and loop-in/out lines would be above ground under this alternative. Similar to the Project, implementation of an FPP and **M-BI-14** would reduce impacts associated with the possibility of wildfires.

4.4 Environmentally Superior Alternative

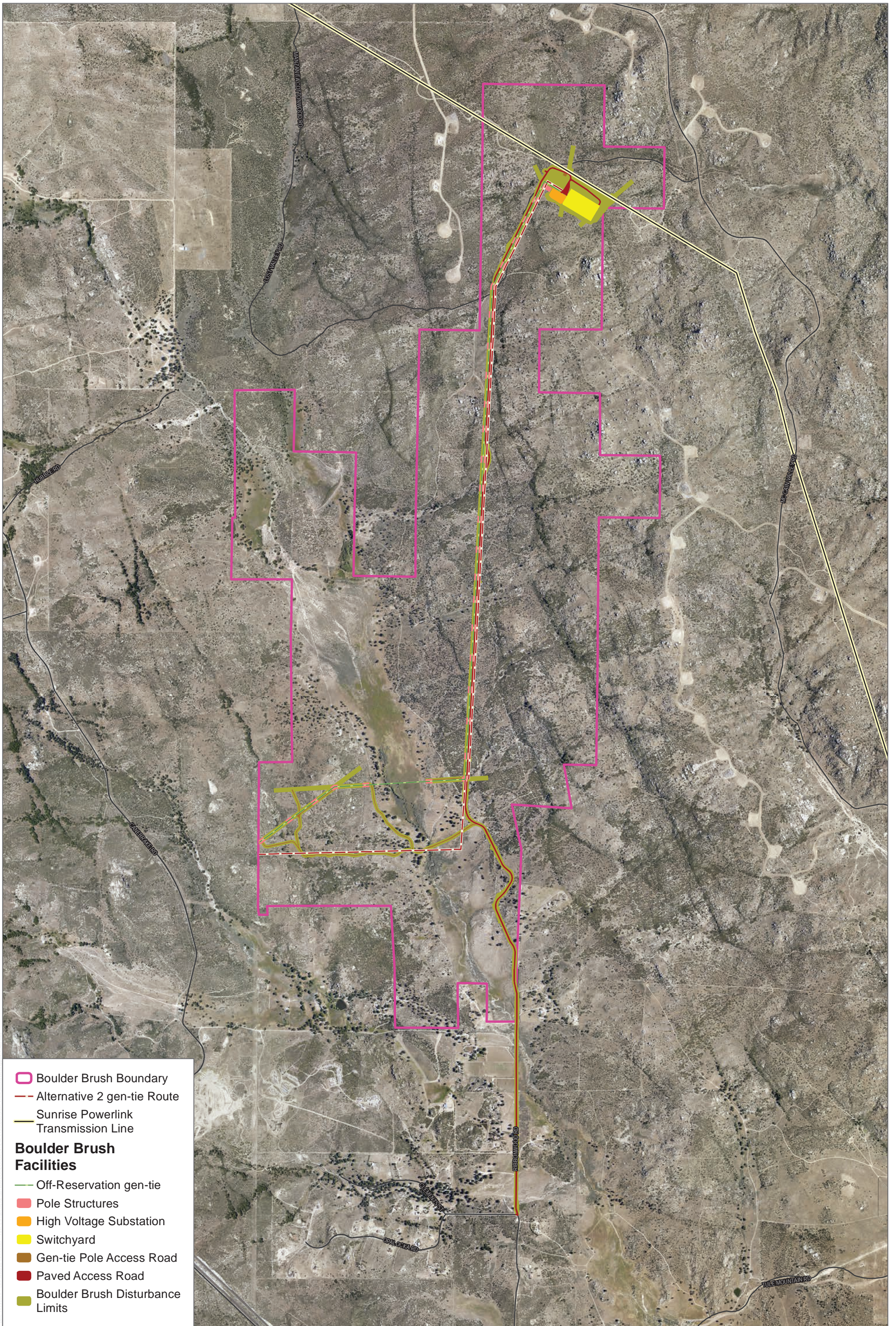
Table 4-1 compares the environmental impacts of each alternative to those of the Project. Based on the information provided above, Alternative 3, Alternative Gen-Tie Line Route within Boulder Brush Boundary, is considered environmentally superior to the Project. Compared to the Project, this Alternative would reduce impacts on Biological Resources, Cultural Resources and Tribal Cultural Resources during construction while all other impacts would be similar during construction and all impacts would be similar during operations.

**Table 4-1
Comparison of Impacts from Alternatives to the Project**

Environmental Topic Area	Boulder Brush Facilities Level of Impact	Impact of Alternative Compared to Project							
		<i>No Project (Alternative 1)*</i>		<i>No Boulder Brush Facilities on Private Lands (Alternative 2)</i>		<i>Alternative Off-Reservation Gen-Tie Route (Alternative 3)</i>		<i>Underground Gen-Tie (Alternative 4)</i>	
		<i>Construction</i>	<i>Operation</i>	<i>Construction</i>	<i>Operation</i>	<i>Construction</i>	<i>Operation</i>	<i>Construction</i>	<i>Operation</i>
Aesthetics	Significant and unavoidable	Less	Less	Less	Less	Similar	Similar	Similar	Less
Agricultural Resources	Less than significant	Less	Similar	Less	Similar	Similar	Similar	Similar	Similar
Air Quality	Less than significant with mitigation	Less	Less	Similar	Similar	Similar	Similar	Greater	Similar
Biological Resources	Less than significant with mitigation	Less	Less	Less	Less	Less	Similar	Greater	Less
Cultural Resources	Less than significant with mitigation	Less	Less	Less	Less	Less	Similar	Greater	Similar
Geology and Soils	Less than significant	Less	Less	Less	Less	Similar	Similar	Similar	Similar
Greenhouse Gas Emissions and Energy	Less than significant	Less	Greater	Similar	Similar	Similar	Similar	Greater	Similar
Hazards and Hazardous Materials	Less than significant with mitigation	Less	Less	Less	Less	Similar	Similar	Similar	Similar
Hydrology and Water Quality	Less than significant	Less	Less	Less	Less	Similar	Similar	Similar	Similar
Land Use	Less than significant	Less	Less	Less	Less	Similar	Similar	Similar	Similar
Noise	Less than significant with mitigation	Less	Less	Less	Less	Similar	Similar	Greater	Similar
Paleontological Resources	Less than significant	Less	Less	Less	Less	Less	Similar	Greater	Similar
Public Services	Less than significant	Less	Less	Less	Less	Similar	Similar	Similar	Similar
Traffic and Transportation	Less than significant	Less	Less	Similar	Similar	Similar	Similar	Similar	Similar

**Table 4-1
Comparison of Impacts from Alternatives to the Project**

Environmental Topic Area	Boulder Brush Facilities Level of Impact	Impact of Alternative Compared to Project							
		<i>No Project (Alternative 1)*</i>		<i>No Boulder Brush Facilities on Private Lands (Alternative 2)</i>		<i>Alternative Off-Reservation Gen-Tie Route (Alternative 3)</i>		<i>Underground Gen-Tie (Alternative 4)</i>	
		<i>Construction</i>	<i>Operation</i>	<i>Construction</i>	<i>Operation</i>	<i>Construction</i>	<i>Operation</i>	<i>Construction</i>	<i>Operation</i>
Tribal Cultural Resources	Less than significant with mitigation	Less	Less	Less	Less	Less	Similar	Greater	Similar
Utilities and Service Systems	Less than significant	Less	Less	Less	Less	Similar	Similar	Similar	Similar
Wildfire	Less than significant with mitigation	Less	Less	Less	Less	Similar	Similar	Similar	Less

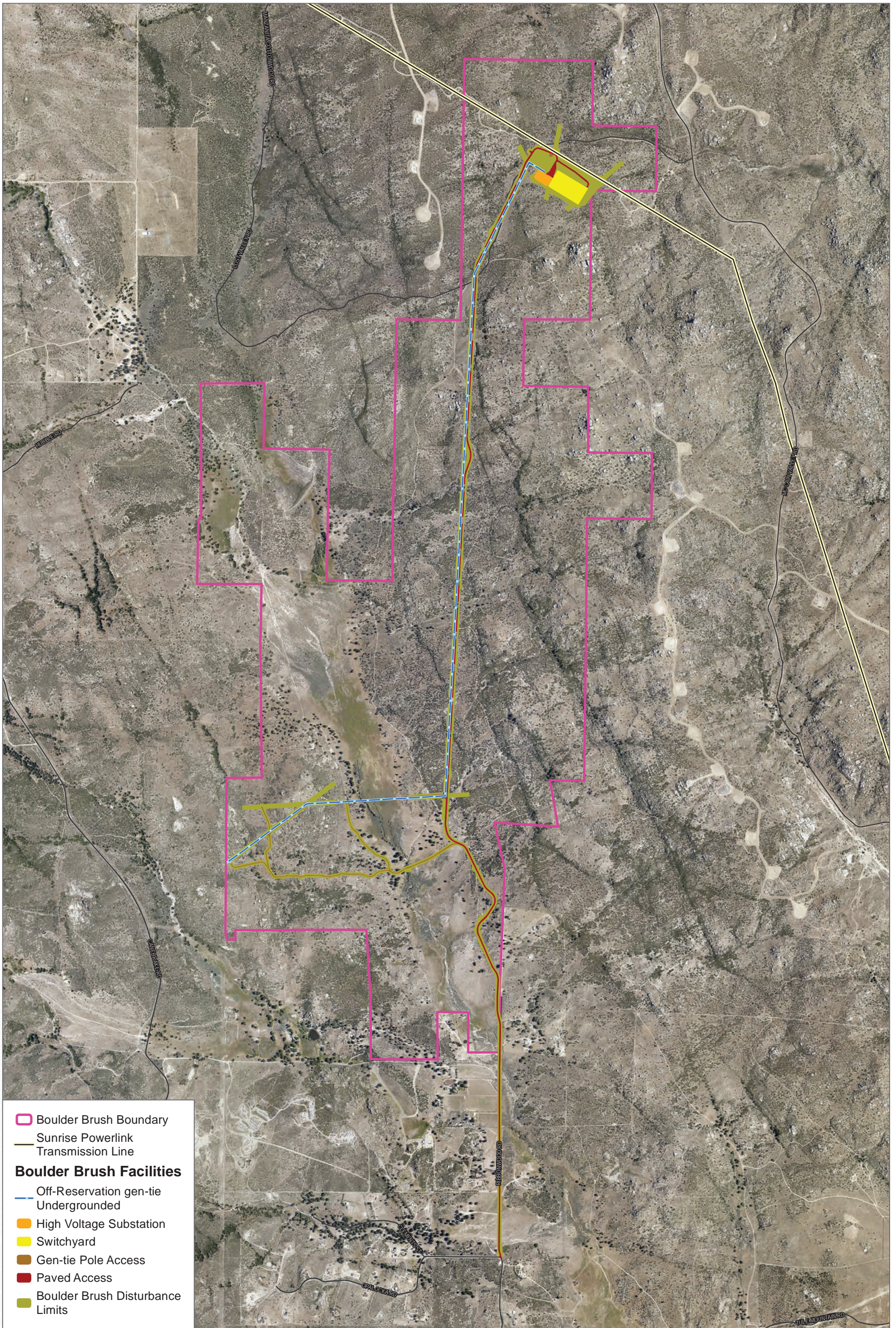


SOURCE: SANGIS 2017



FIGURE 4-1
 Alternative 3: Alternative Gen-Tie Line Route within Boulder Brush Boundary
 Campo Wind Project with Boulder Brush Facilities

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- Boulder Brush Boundary
- Sunrise Powerlink Transmission Line
- Boulder Brush Facilities**
- - - Off-Reservation gen-tie Underground
- High Voltage Substation
- Switchyard
- Gen-tie Pole Access
- Paved Access
- Boulder Brush Disturbance Limits

SOURCE: SANGIS 2017



FIGURE 4-2
 Alternative 4: Underground Gen-Tie Line with Boulder Brush Boundary Alternative
 Campo Wind Project with Boulder Brush Facilities

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