

TULARE COUNTY RESOURCES MANAGEMENT AGENCY

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Tulare Solar Project

Draft Environmental Impact Report

October 2013

Prepared by:



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Executive Summary

This Draft Environmental Impact Report (EIR) will conclude that the proposed Tulare Solar Center (Project or proposed Project) will result in a substantial adverse impact on the environment in the agricultural resources and air quality impact areas.

The EIR has been prepared consistent with the California Environmental Quality Act (CEQA). Its intent is to inform the public and the Tulare County Board of Supervisor of the potential environmental impacts the proposed Tulare Solar Center (Project) would have on resources as specified in the CEQA Guidelines. This EIR, in its entirety, addresses and discloses potential environmental effects associated with construction and operation of the proposed Project, including direct, indirect, and cumulative impacts in the following resource areas:

Aesthetics	Agriculture
Air Quality	Biological Resources
Cultural Resources	Geology and Soils
Greenhouse Gases	Hazards and Hazardous Materials
Hydrology and Water Quality	Land Use and Planning
Mineral	Noise
Population and Housing	Public Services
Recreation	Transportation/Traffic
Utilities and Service Systems	Mandatory Findings of Significance

Although the Mandatory Findings of Significance is not a resource per se, it is required as it essentially provides a summary conclusion of the Project's potential on Long Term Impacts, Cumulative Impacts, and Impacts to Species, Impacts to Historical Resources, and Impacts on Human Beings. It is at this discussion where the EIR concludes that during the proposed Project's construction phase there could potentially be unavoidable and significant impacts associated to Agriculture and Forestry and Air Quality Resources; however the proposed Project's operation would have no significant adverse environmental impacts from Project implementation.

NEED FOR THE PROJECT

The proposed 80 MW Tulare Solar Center is consistent with the California Air Resources Board prepared AB32 Scoping Plan, as well as, the State's Renewable Portfolio Standard (RPS) which call for an increase of renewable electricity in the State. California's RPS is structured through various adoptions of multiple Senate Bills. However, Senate Bill 2 makes California's RPS one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020¹. The goal of the scoping plan is to reduce California's GHG emissions in accordance with

¹ California Public Utilities Commission, <http://www.cpuc.ca.gov/PUC/energy/Renewables/overview.htm>

AB32 plans and reduction programs for year 2020.

Furthermore, “The Tulare County Climate Action Plan (CAP) serves as a guiding document for County of Tulare (“County”) actions to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce fewer greenhouse gas emissions during Plan build out²”. The very nature of the proposed Project would represent improvements above what can be considered “business as usual” (BAU). The proposed Project would help reduce the carbon intensity of electricity generated to serve in Tulare County consumers, and thereby reduce the electricity sector’s GHG emissions to produce electricity. The proposed Project would provide an alternative source of renewable energy and minimize Tulare County’s utilization of natural fossil fuel consumption to generated electricity.

The Project is fundamentally necessary to be developed to support and implement the efforts made by Tulare County to address climate change and increase the amount of renewable energy put into the electrical grid. The proposed Project would assist the County to meet the State’s greenhouse gas emissions reduction levels.

PROJECT DESCRIPTION

The Tulare Solar Center (the “Project”) includes the construction of an 80 MW solar photovoltaic facility on an approximately 1,144 acre property historically used as agricultural farmland in Tulare County, California. The proposed Project site consists of seven parcels in south-central Tulare County. All seven parcels are identified in the Exclusive Agricultural (AE-40) zone district and designated as Rural Valley Lands under the Tulare County General Plan Land Use Map. These General Plan and zoning designations expressly allow the installation of renewable solar power with a Special Use Permit. Additionally, Tulare County Board of Supervisors historically has adopted several resolution actions which allow photovoltaic land uses in designated agricultural lands. Tulare County Board of Supervisors has adopted the following actions and they can be seen in their entirety in Appendix F:

- Resolution No. 89-1275 Uniform Rules for Agricultural Preserves
- Resolution No. 99-0620 Establishing Rules on Farmland Security Zones
- Resolution No. 2010-0458 Interpretation to the Tulare County Zoning Ordinance No. 352 for Solar and Wind Electrical Generation Facilities County Wide
- Resolution No. 2010-0590 Amendment to Resolution Interpretation to Tulare County Zoning Ordinance No. 352
- Resolution No. 2010-0591 Compatibility for Public and Private Utility Structures Located on Agricultural Zoned Lands and Lands Under Williamson Act Contracts
- Resolution No. 2010-0717 Establishing Criteria for Public and Private Utility Structures Proposed on Agricultural Zoned Lands and Lands Under Williamson Act Contracts³.

² Tulare County Climate Action Plan, page 1

³ Appendix (G- Resolution Attachment)

PROJECT LOCATION

The proposed Project site extends across just over 1,144 acres of undeveloped farmland near south central Tulare County. Approximately 572 acres or approximately 50% of the proposed Project site, east of State Route 65 and south of Avenue 24, is currently dry land farmed. The remaining half of the proposed Project site, west of State Route 65 and north of Avenue 12, is fallow and is currently being disced. State Route 65 bi-sects the site approximately at the site's east-west mid-point, a graveled county road (Avenue 24) runs adjacent to the northern portion of the Project site, and an unpaved road (Avenue 12) runs adjacent to the majority of the Project site's southern boundary. The proposed Project site spans across the west portion of State Route 65 along Avenue 12, to up to Road 224 on the west, and approximately 1,200 feet north to an unpaved road which travels parallel to Avenue 12. The west side of the Project site is primarily bounded by unpaved roads.

The proposed Project site spans across several sections in the Public Land Survey System, and is listed as follows;

- A portion of Assessor's Parcel Number APN# 339-100-07, is in Section 23, Township 24 South, Range 27 East.
- A portion of APN# 339-110-06, is in Section 22, Township 24 South, Range 27 East.
- A portion of APN# 339-110-10, is in Section 21, Township 24 South, Range 27 East.
- A portion of APN# 339-110-16, is in Sections 22, Township 24 South, Range 27 East.
- A portion of APN# 339-140-01, is in Sections 28, Township 24 South, Range 27 East.
- A portion of APN# 339-140-08, is in Sections 28, Township 24 South, Range 27 East.
- A portion of APN# 339-140-10 is in Sections 27, Township 24 South, Range 27 East and all identified parcel numbers can be found within the Tulare United States Geological Survey (USGS) 7.5 minute topographic quadrangle at:

Latitude: N 35° 49' 22.883"
Longitude: W 119° 03' 12.954"

PROJECT ELEMENTS

It's anticipated that complete proposed Project build-out could occur over several years, or in a single year, with Project phases (e.g. multiple 10 or 20 MW phases or a single 80 MW phase) being completed on a schedule necessary to deliver electricity pursuant to the requirements of Power Purchase Agreements (PPAs) entered into with the contracting utility or utilities. The

energy produced by the proposed Project would be sold to a public utility company, a municipality, or a CAISO market participant, and ultimately distributed for public consumption.

Proposed Project construction generally requires a focus in three major areas. The areas of focus include:

- The solar field with associated equipment, including solar PV panels/modules, racking systems, inverters, intermediate voltage transformers, access roads, and underground, above-ground, or overhead electrical systems to collect and consolidate power from across the Project.
- A substation(s) that receives the solar field's electrical production and increases the voltage to match the voltage of the adjacent utility grid via a generator step-up transformer(s), with Project owned gen-tie lines, and
- Any other electrical interconnection components necessary for the Project's production to reach the utility grid, including disconnect equipment, communications lines (e.g. fiber optics) and a sub-transmission tap line.

The proposed Project perimeter will be secured by an 8-foot-high, chain-link perimeter fence, potentially topped with barbed wire for added facility security. A minimum 50-foot setback is proposed from the property line to all solar modules and equipment where needed to ensure land use compatibility with adjacent land uses. Access to the Project site would either be along Avenues 12 or 24, these are existing roads which connect to State Route 65. There will not be direct site access via State Route 65. Once inside the site, pervious roadways would provide access to the PV modules and the substation. Points of ingress/egress will maintain a minimum of a 20-foot driveway length from the edge of the adjacent road, with a width of 20 feet. No formal landscaping is proposed for the proposed Project, drought resistant plant species will be utilized as ground cover.

Construction activities will typically occur eight to ten hours per day, for five to six days per week period. The construction schedule may require longer daily schedules, additional shifts, night work, or work on Sundays. In the event that construction activities would require to be performed on Sunday; the general contractor would need to notify Tulare County Staff for consideration. Approximately 65 workers per day would be expected onsite during the construction phase. During the peak of construction, which is anticipated to last up to four months, up to 75 workers would be onsite each day and would commute to and from the site on a daily basis, at an average round-trip distance of 50 miles. Local labor would be utilized to the maximum extent practicable. In the event the entire Project is built out in a single phase, assumptions for the worst case impacts analysis will assume 195 workers per day, with average round-trip distance of 50 miles traveled.

During construction, assuming multiple proposed Project phases, and depending upon that phase's construction phase, approximately 15 to 30 truck-trips to the site will occur each day. Complete build-out in a single phase, will include 90 heavy-duty and 3 medium-duty truck-trips to the site each day. Most of the proposed Project's components will be manufactured/pre-assembled offsite, with final assemblage, mounting, and interconnection to occur onsite.

During regular and annual Operational and Maintenance (O&M) activities, the number of regular onsite staff is expected to range between 0 to 10 workers on a daily basis. An O&M staff compliment of two to three persons is anticipated for routine facility maintenance activities. Security or operations personnel will be available for dispatch to the Project site 24 hours per day, 7 days a week. O&M activities conducted regularly or from time to time will include:

- Solar module washing
- Vegetation and weed abatement
- Security monitoring and security system maintenance
- Responding to dispatch instructions by the remote operator to perform any corrective actions or maintenance items
- Regularly scheduled preventive maintenance
- Occasional corrective maintenance tasks
- Communicating with the remote operator to ensure accurate communication with the contracting utility, transmission system operators, and other entities involved in facility operations.

The anticipated life of the Project is proposed to be 25 years, with the option to extend additional years. At the end of the Project life, the applicant, or Project management group, will remove all Project facilities from the site. The disassembly and extraction of the solar facility is expected to be completed during a three to four month timeframe. It is anticipated that all electrical equipment will be disassembled and removed for re-use or recycling. The facility site shall be largely restored to its pre-Project site condition. Although changes to land topography are not anticipated due to the land's flat and level features, corrective grading for any major divots created by the removal of solar generation equipment or materials shall be completed to restore the surface to a comparable pre-project condition. Alternatively, given the economic and growing conditions at the time of land reclamation implementation, the ground cover utilized during the life of the facility may be left in place if it is determined to be the best management practice at that point in time.

PROJECT OBJECTIVES

Objective 1: Operate a photovoltaic solar generation facility capable of producing up to 80 MW of renewable solar power

A primary objective of the proposed Project is to construct and operate a solar photovoltaic (PV) generating facility so that up to 80 MW of the energy produced by the proposed Project could be sold to a public utility company, a municipality, or a CAISO market participant, and ultimately distributed for public consumption.

Objective 2: Implementation of AB 32

AB 32 has defined plans and programs for year 2020, with the vision of Year 2050 that sets a goal to achieve an 80% reduction of greenhouse gas (GHG) compared to the 1990 base year. The proposed solar energy generating facility is consistent with AB 32 measures of Year 2020 and assists in implementing the objectives for the Year 2050 goal. The proposed Project will also

implement California's Renewable Portfolio Standard's, one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020.

Objective 3: General Plan Update 2030 – Climate Action Plan

The proposed Project was developed to support and implement the efforts made by the County of Tulare to address climate change through its General Plan and Climate Action Plan. The proposed Project is intended to increase the amount of renewable energy available to the existing electrical grid. In addition, the facility will assist in meeting state greenhouse gas emissions reductions by providing an alternative source of renewable energy to reduce Tulare County's use of fossil fuel consumption in order to produce electricity.

Objective 4: Minimize environmental impacts by locating in a suitable rural setting near existing power grid connections lines.

Photovoltaic facilities or projects of this magnitude and scale are usually constrained by geographic locations. Furthermore, potential Project sites may be located a cost-considerable or physical distance from suitable electric grid connections. Based on these factors, site location will influence construction costs. The proposed Project location is identified as a suitable site based upon its proximity to an existing grid substation (SCE's Vestal Substation) located near the intersection of Avenue 24 and Richgrove Drive in Tulare County.

Objective 5: Minimize environmental impacts in the community by locating the facility in a remote location.

For large-scale photovoltaic facilities the most efficient location for capturing solar radiation is on level land. Impacts associated with this facility's construction phase may occur in periods ranging from a year or up to possibly three years. The objective of this Project is to locate the photovoltaic facility in a remote area away from urban population centers and sensitive receptor uses, such as residences, hospitals, and schools. In addition, a Project of this magnitude may not be perceived as an appropriate or compatible land use on or near a state or national park land and monuments, historic or cultural resources, designated Wilderness Areas, wetland, and riparian areas, or adopted Habitat Conservation Plans, Natural Community Conservation Plans, and other approved local, regional, or state habitat conservation plan areas. The proposed Project has been selected because it will result in less than significant adverse impacts to the existing environment than other potential locations.

SUMMARY OF CHAPTERS

Chapter 1 Introduction

The Introduction discussion contained in Chapter 1 consists of a Project Summary; Identification of Potentially Significant Impacts; Consideration of Significant Impacts; Mitigation Measures;

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Organization of the EIR; and Environmental Review Process. Below is a summary of each of these components within Chapter 1:

Project Summary: The Tulare Solar Center (the “Project”) includes the construction of an 80 MW solar photovoltaic facility on an approximately 1,144 acre property historically used as agricultural farmland in Tulare County, California. The proposed Project site consists of seven parcels in south-central Tulare County. All seven parcels are identified in the Exclusive Agricultural (AE-40) zone district and designated as Rural Valley Lands under the Tulare County General Plan Land Use Map. These General Plan and zoning designations expressly allow the installation of renewable solar power with a Special Use Permit.

Local Regulatory Context: The Tulare County General Plan Update 2030 was adopted on August 28, 2012. As part of the General Plan an EIR was prepared as was a background report. The General Plan background report contained contextual environmental analysis for the General Plan. The Housing Element for 2009-2014 was adopted on May 8, 2012, and certified by State of California Department of Housing and Community Development on June 1, 2012.

Identification of Potentially Significant Impacts: Indicates that the EIR must identify potentially significant impacts consistent with CEQA Guidelines Section 15002 (h).

Consideration of Significant Impacts: Indicates that the EIR must consider significant impacts consistent with CEQA Guidelines Section 15126.2.

Mitigation Measures: Indicates that the EIR is required to contain mitigation measures consistent with CEQA Guidelines Section 15126.4

Organization of the EIR: Summarizes the content of each Chapter in the EIR.

Environmental Review Process: Pursuant to CEQA Guidelines §15082, summarizes steps taken prior to release of the draft EIR such as the Notice of Preparation, Scoping Meeting, and comments received from persons and/or agencies in response to the Notice of Preparation.

Chapter 2 Project Description, Objectives, and Environmental Setting

In order to orient the reader to this EIR, Chapter 2 provides an Introduction which describes the need for this EIR. It includes site specific details for the construction of an 80 MW solar photovoltaic facility on an approximately 1,144 acre property. The Chapter includes historic site usage and its agricultural farmland condition in Tulare County. The proposed Project site consists of seven parcels in south-central Tulare County. All seven parcels are identified in the Exclusive Agricultural (AE-40) zone district and designated as Rural Valley Lands under the Tulare County General Plan Land Use Map. These General Plan and zoning designations expressly allow the installation of renewable solar power with a Special Use Permit.

In summary, Chapter 2 also contains the following:

- **Project Location:** The proposed Project site extends across just over 1,144 acres of undeveloped farmland near south central Tulare County. The proposed Project site spans across seven assessor parcel numbers, 339-100-07, 339-110-06, -10, -16, 339-140-01, -08, -10 which are at the east and west portions of State Route 65 and south Avenue 24.
- **Vicinity of Project Site:** Southeast Tulare County as shown in Figure 2-4.
- **Surrounding Land Uses:** Surrounding land uses are primarily agricultural mixture of orchards, row crops, dry farming, and farmed lands; several rural residences are located within one quarter mile of the site. Rural residences are located adjacent to SR 65 and Avenue 24, with two residences (owned by the landowner) surrounded by the project, and other lying west and east of the project's northern extremes.
- **Current Operation/Project Setting:** The proposed Project site is primarily undeveloped farmland currently being utilized for agricultural dry farming of products, such as growing of hay and barley. One property within the Project boundary (APN 339-140-01) is occupied by a rural residence; however the proposed Project will be developed around the existing structures in order to preserve the existing facilities.
- **Regulatory Setting:** The Tulare County Zone Map identifies all seven properties in the proposed Project's boundary within the Exclusive Agricultural (AE-40) zone district and all are designated as Rural Valley Lands under the Tulare County General Plan. The California Department of Conservation's Farmland and Mapping Monitoring Program identifies six parcels as Farmland of Local Importance, while an approximately 20-acre property is identified as Farmland of Statewide Importance. The proposed Project is consistent with Federal, State, and local Tulare County Ordinance, Section 16 of Ordinance 352, as amended, allowing solar photovoltaic electric generating facilities within agricultural zoned lands, subject to a County approved Special Use Permit and Developer Agreement.
- **Project Objectives:** (See pages Chapters 2 for details)

Chapter 3 Impact Analysis [of Resources]

The CEQA Guidelines Appendix G includes a Checklist of resources that must be addressed in an EIR. These resources are listed earlier on page EX-1. There are 17 specific resources and a Mandatory Findings of Significance discussed in Chapter 3. The resources are discussed in separate sections of Chapter 3 and each section is structured as follows:

- Summary of Findings;
- Introduction, including Thresholds of Significance;
- Environmental Settings;
- Regulatory Settings such as applicable Federal, State, and Local laws, statutes, rules, regulations, and policies;
- Impact Evaluation including Project Impacts, Cumulative Impacts, Mitigation Measures, and Conclusion;
- Definitions and Acronyms; and
- References

Some resources required expertise to evaluate the potential Project's impact to the resource. Tulare County RMA enlisted the assistance of qualified experts to prepare studies, evaluations, assessments, modeling, etc. (studies) to quantify and/or qualify potential resource impacts. The studies are contained in Appendices "A" through "K". Among the studies were air quality, biological, cultural (archaeological, historical, and paleontological), geological and soil.

Chapter 4 Summary of Cumulative Impacts

A critically important component of an EIR is the Cumulative Impacts discussion. Chapter 4 discusses a Cumulative Impact Analysis under CEQA; Past, Present, Probable Future Projects; and Summary of Cumulative Impacts. Whereas a project in and of itself may not result in an adverse environmental impact, its cumulative effect may. The CEQA Guidelines require a discussion of cumulative impacts per Section 15130 Discussion of Cumulative Impacts, and defines cumulative impacts per Section 15355 Cumulative Impacts, as "Cumulative impacts" [-referring] to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

With the exception of Air Quality, Biological, Hydrological, and Land Use resource impacts, Chapter 4 defines Tulare County as the geographic extent of the impact analysis. The geographic area is considered the appropriate extent because:

1. The proposed Project is geographically located in Tulare County and the County of Tulare is the Lead Agency;
2. The proposed Project is a 80 MW photovoltaic facility over a span of seven parcels equivalent to approximately 1,144 acres located approximately four miles south of the U.S. Census Designated Place of Ducor in south Tulare County;
3. Project could potentially convert Farmland of Local Importance to non-agricultural use; however, the potential conversion will be limited by two reasons: 1) the proposed Project will not introduce a nonagricultural use that is sensitive to or incompatible with agricultural operations that will occur nearby; and 2) at the end of its 25 year operating life, infrastructure associated with the solar facility will be removed, and the site will be returned to agricultural use, via a reclamation plan included as a condition of approval;
4. The Tulare Solar Center will rely on and would potentially affect other County of Tulare Services; and,
5. Tulare County General Plan policies apply to the proposed Project.

The basis for other resource specific cumulative impact analysis includes:

- Aesthetics, Land Use, and Noise Impacts are based on the County of Tulare's General Plan;
- Air Quality and Green House Gas Emissions are based on the San Joaquin Valley Air Basin;
- Biological Resources are based on the San Joaquin Valley; and
- Hazards and Hazardous Materials are bases of California Department of Toxic Control;
- Hydrology is based on the Tulare Lake Basin, Tule Lake Sub-basin aquifer

The Summary of Cumulative Impact section discusses unavoidable impacts, less than significant impacts with mitigation, less than significant impacts, and no impacts for each of the 17 listed resources. Checklist item criteria that would result in no impacts or less than significant impacts are discussed in the Chapter 3 and summarized in Chapter 4. As summarized in Chapter 3, there are two Unavoidable Impacts identified in Agriculture and Forestry and Air Quality Sections; and Less than Significant Impacts with Mitigation are summarized Chapter 4 Table 4-2 (Checklist Items with Less than Significant with Mitigation). There are a number of cumulative impacts that can be effectively mitigated. These impacts are listed in the Table 4-3 (Checklist Items with Less than Significant Impacts). Chapter 8 contains a complete list of mitigation measures to be implemented as part of the proposed Project. Chapter 4 also contains a No Impacts summary in Table 4-4 (Checklist Items with No Impacts).

Chapter 5 Alternatives

CEQA Guidelines Section 15126.6 requires that a reasonable range of Alternatives to the proposed Project be discussed in the EIR. The proposed Project site is the superior location. The conclusion contained in Chapter 5 is based on the criteria established for the site, an evaluation of potential sites 1,100 acres or greater in size, locations in close proximity for grid connection, and the 5 reasonable Alternatives. The 5 Alternatives evaluated are:

Alternative 1 No Project/Programmatic Changes;
Alternative 2 Alternative Site No. 1;
Alternative 3 Reduce Scale of Project Site;
Alternative 4 Alternative Configuration; and
Alternative 5 Alternative Energy Generation Technologies

The proposed Alternatives were analyzed based on five evaluation criteria which include each of the objectives of the Project and the assessment of the potential environmental impacts. Each Alternative considered did not meet all the evaluation criteria as identified in Table 5-1 (Alternatives Matrix) contained in Chapter 5. Following is a summary of the Alternatives:

Alternative 1 - No Project/Programmatic Changes: Compared to the proposed Project, the No Project Alternative would avoid all potential construction-related impacts to because the solar PV electrical generating facilities would not be constructed. From an operational standpoint, the No Project Alternative will avoid any impacts associated with biological and visual resources because no changes in current agricultural operations or location would occur. The No Project (No Build) Alternative is theoretically feasible, it would fail to meet any of the Project objectives.

Further, while this alternative may lessen certain site specific environmental impacts as noted, it would also reduce the State of California's ability to achieve a number of other broader legislative environmental goals as well. Not constructing this alternative energy source project could in the broader state-wide context result in greater environmental impacts overall or in the cumulative analysis. In this case, without the proposed Project, there would be a continuing escalation of impacts on the environment related to ongoing increases in

demand for and use of fossil fuels for energy, and thereby, greater impacts to air quality from greenhouse gases and associated secondary health effects to human, plant and animal life.

Alternative 2 - Alternative Site No. 1: a 1,262-acre site, is shown on Chapter 5 figures 5-1 and 5-2. Alternative Site No. 1 is deemed to be a valid site for alternatives assessment from the standpoint it meets all of the Project Objectives defined in Chapter 2 and the Evaluation Criteria described above. These parameters are analyzed below.

- 1.) The site is approximately of similar size to the Proposed Project. Therefore, Alternative Site No. 1 has the potential to support a similar capacity project as proposed.
- 2.) The alternative location lies within Exclusive Agricultural Zoning (20 and 40-acre minimum parcel size) and is proximate to Vestal Substation. Therefore the site is and can maintain reasonable feasibility.

Alternative 3 - Reduced Scale of Project: This alternative would involve a reduction in the size of the Project site, and/or the MW output of the proposed Project as a means to minimize, reduce or avoid the potentially significant impacts. A reduction of the project scale/MW output could proportionately lessen the degree of impacts related to loss of agricultural lands and generation of construction related air quality impacts. Theoretically the Project scale could be reduced sufficiently to reduce agricultural loss and AQ impacts to less than significant. However, in any case of a reduced scale of project the alternative would not meet the objectives of the proposed Project and therefore is not reasonable to consider.

Alternative 4 - Alternate Configuration: This Alternative would reconfigure the site layout of the proposed Project. This alternative would be useful if there were finite areas of biological sensitivity or other areas needing to be avoided in order to specifically mitigate or minimize, reduce, or avoid environmental impacts. However, the potentially significant impacts identified in this MND are not related to site layout. Moving the locations of the either the building or PV structures would have little effect on any of the potentially significant impacts.

Alternative 5 - Alternate Energy Generation Technologies: Solar photovoltaic technology is considered an alternative to the more fundamental or common electromechanical power technology for generation of electricity. Electricity is generated at most electric power plants by using mechanical energy to rotate the shaft of electromechanical generators. The mechanical energy needed to rotate the generator shaft can be produced from the conversion of chemical energy by burning fuels.⁴ But there are also other alternative technologies to solar PV that are available for generating electric power: Kinetic (flowing wind and water), Geothermal, and Biomass. Because the Project proponent is not in the business of providing

⁴ [Environmental](http://www.epa.gov/nsr/ghgdocs/electricgeneration.pdf) Protection Agency, Office of Air and Radiation. 2010. Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Coal-Fired Electric Generating Units. October 2010. Accessed May, 2013.
<http://www.epa.gov/nsr/ghgdocs/electricgeneration.pdf>

nuclear fission, kinetic, or geothermal power generation, this alternative to the proposed Project is not feasible or reasonable.

Chapter 6 Economic, Social, & Growth Inducing Impacts

This Chapter discusses the Economic, Social, and Growth Inducing effects of the Project. It contains CEQA requirements and a summary of the impact analysis as follows:

- **Economic Effects** - The proposed Project will not result in negative impacts to the region. It may result in an increase in economic benefits to the region, since the proposed Project will provide up to 195 construction worker jobs during project construction phase and approximately 10 workers during Project site management and operation of the solar facility. The proposed Project will also increase approximately 80 MW of electricity back into the County's electric grid via Power Purchase Agreements entered with contracting utility or utilities companies.
- **Social Effects** - The Project will not result in a disproportionate effect on minority populations, low income populations, or Native Americans. The proposed Project would not create nor pose any adverse environmental justice issues.
- **Growth Inducing Effects** - The Project will not result in significant growth inducing impacts. Although the Project will result in 195 total construction phase jobs and approximately 10 total facility operation and management jobs, it's anticipated majority of workers would be local residents. The available housing stock in Tulare County would be able to accommodate all employees and new residents who may relocate in Tulare County. Furthermore, the proposed Project would result in additional electrical generating capacity for the California electrical grid, increasing generating capacity by about 80 MW. The availability of additional electrical energy from the proposed Project is not in itself anticipated to be growth inducing by relieving a current constraint to growth.

The overall conclusion contained in Chapter 6 is implementation of the proposed Project will result in less than significant environmental impacts, either individually or cumulatively, caused by either economic, social, or growth inducing effects.

Chapter 7 Unmitigable Impacts

This discussion provides determinations consistent with CEQA Guidelines Sections 15126.2 (b) Environmental Effects That Cannot Be Avoided, 15126.2 (c) Irreversible Impacts, and Statement of Overriding Considerations.

This proposed Project will potentially result in significant and unavoidable air quality and farmland conversion impacts. Combined with similar solar energy generating facilities in Tulare County region, the cumulative impacts from this Project will potentially impact nearby residents and potential wildlife resulting in a Mandatory Finding of Significance, which is significant and unavoidable.

The cumulative analysis in Chapter 7 is based on the information provided in the Air Quality & Climate Change Impact Assessment for Tulare Solar Center, Cultural Resource Survey Report, Biological Survey Report, Project Phase I Environmental Site Assessment Report, the Tulare County 2030 General Plan, General Plan background Report, and/or the Tulare County 2030 General Plan EIR. The potential environmental impacts of the Project as a result of construction and development are associated with distressing air quality threshold levels and farmland conversion to non-agriculture production use. Irreversible impacts can also result in the loss of approximately 1,144-acres of farmland as a consequence of the proposed Project. These impact impacts are identified as being unavoidable, even with the implementation of Mitigation Measures.

The overall purpose of the proposed Project is to reduce California's carbon footprint and reduce greenhouse gas emission levels by transitioning to alternative resources to generate renewable energy electricity. Therefore, alternative mitigation measures for Agricultural Farmland and Air Quality cumulative impacts were considered for the proposed Project although it's highly probable for the Project to still have significant and unavoidable impacts. The findings described in Chapter 7 indicate that the cumulative effects associated with reduction of Tulare County farmland acreage as a result of constructing the solar facility, and the effects of exceeding air quality threshold levels during construction phase will remain significant to nearby property owners despite implementation of proposed mitigation measures, and evaluation of the Project alternatives.

Tulare County can conclude that there are no feasible alternatives that can reduce these potentially significant and unavoidable impacts to a less than significant level and that all feasible alternatives have some significant and unavoidable impacts. The County of Tulare can also determine that the Project results in the following public benefits as described in detail in the Final EIR that justify proceeding with the Project despite the adverse environmental impact of the residual significant effects.

Chapter 8 Mitigation Monitoring and Reporting Program

A summary of the Mitigation Monitoring and Reporting Program is contained at the end of this Executive Summary. CEQA Section 21081.6 requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid adverse effects on the environment. The mitigation monitoring and reporting program is required to ensure compliance during a project's implementation. Consistent with CEQA requirements, the Mitigation Monitoring and Reporting Program contained in this EIR include the following elements:

- **Action and Procedure.** The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.
- **Compliance and Verification.** A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.

- **Flexibility.** The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the Mitigation Monitoring and Reporting Program. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program

Chapter 9 EIR Preparation

Key persons from the County of Tulare and the consulting firms that contributed to preparation of the Draft Environmental Impact Report (Draft EIR) are identified.

The sitting Tulare County Planning Commission, Tulare County Resource Management Agency Director (Jake Raper, Jr., AICP), Planning Branch Director (Michael C. Spata), Chief Environmental Planner (Hector Guerra), and Environmental Planning Division staff (Aaron Bock, Planner IV) are noted.

This EIR could not have been accomplished without the consulting firms that prepared technical studies to support the analyses contained herein. Environmental Resource Management, Scott Weaver, Jeff Baldino, Dana Ostfeld, and Sarah Piper provided the *Air Quality and Climate Change, Biological Survey Report- Tulare Solar Center Project* reports; AMEC Environment and Infrastructure, Inc., Hubert Switalski and Andrea Bardsley provided the *Cultural Resource Survey Report for the Proposed 1,064 acre Tulare Solar Center* report; Advance Environmental Consultants, LLC., Daniel Weis provided the Phase I Environmental Site Assessment report, and Provost & Pritchard Consulting Group provided *Geology & Soils, Water Supply Assessment, and Water Quality Technical Studies and the Biological Site Assessment Report*.

SUMMARY OF MITIGATION MEASURES

Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
3.1-1	All exterior lighting shall be so adjusted as to deflect direct rays away from public roadways and adjacent properties.	Less than Significant
3.1-2	The module racking system and any related tilt-control structures, substation(s), and associated equipment shall utilize muted coating colors, with a matte finish prior to the final inspection by the building department.	Less than Significant
3.3-1 (a and b)	The construction fleet shall achieve exhaust emission reductions through the prioritized use of newer, cleaner burning equipment during construction. The utilization of cleaner burning equipment shall be documented by the construction team on the District's prescribed detailed fleet form for the Project duration. Exhaust emission reduction calculations after project build-out shall be based on the actual usage of construction equipment from the detailed fleet records.	Significant and Unavoidable Construction Impacts Less than Significant Operation Impacts
3.4-1 (a)	<i>San Joaquin kit fox surveys.</i> A qualified biologist shall conduct surveys for the San Joaquin kit fox within 200 feet of areas with potential kit fox habitat (marked with orange polygons on Figure 3 of Appendix C). These surveys should occur between 14 and 30 days prior to the start of construction activities, in accordance with the January 2011, USFWS' <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance</i> ⁵ . Surveys should identify kit fox habitat features on the Site and evaluate use by kit fox, and if possible, assess the potential impacts to the kit fox by the proposed Project. The status of all dens shall be determined and mapped. Written results of the preconstruction/preactivity surveys must be received by the USFWS within five days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the	Less than Significant

⁵ U.S. Fish and Wildlife Service Standardized Recommendations for Protecting of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	Project Site or within 200-feet of the Project boundary, the USFWS shall be notified immediately. If the preconstruction/preactivity survey reveals an active natal pupping, the applicant shall contact the USFWS immediately to obtain the necessary take authorization/permit.	
3.4-2 (a)	Preconstruction/ Preactivity shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, and assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped. Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.	Less than Significant
3.4-3 (a)	Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible.	Less than Significant
3.4-4 (a)	If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.	Less than Significant
3.4-5 (a)	Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period.	Less than Significant
3.4-6 (a)	If at any point during excavation, a kit fox is discovered	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.	
3.4-7 (a)	Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.	Less than Significant
3.4-8 (a)	To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 3.4-16 referenced below.	Less than Significant
3.4-9 (a)	Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	from the path of construction activity, until the fox has escaped.	
3.4-10 (a)	All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.	Less than Significant
3.4-11 (a)	No pets, such as dogs or cats, should be permitted on the Project site to prevent harassment, mortality of kit foxes, or destruction of dens.	Less than Significant
3.4-12 (a)	Use of rodenticides and herbicides in project areas should be restricted. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.	Less than Significant
3.4-13 (a)	A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.	Less than Significant
3.4-14 (a)	An employee education program should be conducted for projects that have anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.	
3.4-15 (a)	Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. shall be re-contoured if necessary, and re-vegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be re-vegetated. Appropriate methods and plant species used to re-vegetate such areas shall be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.	Less than Significant
3.4-16 (a)	In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.	Less than Significant
3.4-17 (a)	Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. The Sacramento Fish and Wildlife Office and CFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The current CFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.	Less than Significant
3.4-18 (a)	New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	<p>be provided to the Service at the address below.</p> <p>Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division 2800 Cottage Way, Suite W2605 Sacramento, California 95825-1846 (916) 414-6620 or (916) 414-6600</p>	
3.4-19 (a)	<p>Burrowing owl surveys. As recommended by CDFG⁶, and in accordance with CDFG's 2012 <i>Staff Report on Burrowing Owl Mitigation</i>, a qualified biologist shall conduct three surveys for burrowing owls where potential burrowing owl habitat occurs within 500 feet of Project activities (i.e., areas marked with orange polygons on Figure 3 of Appendix C). Surveys shall occur during the peak breeding season for this species (15 April through 15 July), and spaced three weeks apart. If active burrowing owl burrows are identified within 500 feet of the Project site, then avoidance, take avoidance surveys, site surveillance, minimization, and buffer mitigation measures shall be implemented, in accordance with the 2012 CDFG <i>Staff Report</i> and direct consultation with CDFG.</p>	Less than Significant
3.4-20 (a)	<p>Nesting bird surveys. If Project construction activities are going to occur within the nesting bird season (i.e., 15 February through 31 August), then within two weeks prior to construction a visual nesting bird survey shall be conducted of all overhead power line structures/facilities, grasslands, and trees within 500 feet of proposed activities. If an active nest of a native bird species is encountered, the nest shall not be disturbed until chicks have fledged or otherwise abandoned their nest, which could be for several weeks. In addition, CDFG shall be consulted to determine a suitable avoidance buffer around the active nest.</p>	Less than Significant
3.4-21 (c)	<p>Wetland. A formal wetlands delineation shall be prepared by</p>	Less than Significant

⁶ Lori Bono, CDFG, pers comm, 5 April 2012

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	a qualified wetland consultant and submitted to the Regional Water Quality Control Board for verification to confirm the extent of jurisdictional wetlands and other waters on the Project site. A Section 401 Certification shall be obtained from the Regional Water Quality Control Board where waters of the US are directly affected by the Project. Conditions required as a part of the authorization by the RWQCB shall be implemented as part of the Project.	
3.5-1 (a-c)	The project proponent shall continuously comply with the following: In the event that historical, archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the Project site be immediately suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. In this event, the property owner shall retain a qualified archaeologist/ paleontologist to provide recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recover, excavation analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of Project design as previously approved by the County.	Less than Significant
3.5-2 (d)	<p>Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during Project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:</p> <ol style="list-style-type: none"> 1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: <ol style="list-style-type: none"> a. The Tulare County Coroner/Sheriff must be 	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	<p>contacted to determine that no investigation of the cause of death is required; and</p> <p>b. If the coroner determines the remains to be Native American:</p> <p>i. The coroner shall contact the Native American Heritage Commission within 24 hours.</p> <p>ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.</p> <p>iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or</p> <p>2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.</p> <p>a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.</p> <p>b. The descendant fails to make a recommendation; or</p> <p>c. The landowner or his authorized representative rejects the recommendation of the descendent.</p>	
3.9-1 (a)	Drainage and Pond Plans. Drainage and pond plans will be reviewed and approved by the Central Valley Regional Water Quality Control Board and may require a National Pollution Discharge and Elimination System (NPDES)	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
	permit. The on site drainage will also be reviewed by Tulare County Environmental Health and the Public Works Department to verify that the site does in fact contain the 100 year / 24 hour event per the Central Valley Regional Water Quality Control Board standards.	
3.12-1 (a)	All construction equipment shall be equipped with noise-reducing mufflers or other sound absorbing material (retro-fitted to gas and diesel-powered equipment).	Less than Significant
3.14-1 (a)	Applicant shall provide an all weather access road to the site and any facilities affected by the Special Use Permit.	Less than Significant
3.14-2 (a)	Applicant shall submit plans for all new construction, and shall comply with the provisions of the 2012 Cal Green Building Code, Fire Code, Mechanical Code, Electric Code and Plumbing Code, as applicable.	Less than Significant
3.14-3(a)	The Tulare County Fire Department shall be notified of the proposed start date of any processing, storage, or special use granted and mitigated prior to initiation of any building operations.	Less than Significant
3.14-4 (a)	Violations of any of these conditions shall result in Tulare County Fire Department's rescission of approval of the Special Use Permit.	Less than Significant
3.14-5 (a)	The Fire Department requires a Knox box to be installed at an approved location to permit entry to the site.	Less than Significant
3.14-6 (a)	All access gates shall be set back 30 feet from the roadway for fire apparatus access.	Less than Significant
3.14-7 (a)	All combustible vegetation shall be removed from the site and Tulare County Fire department approved measures taken to prevent the accumulation of combustible vegetation that would create a fire hazard.	Less than Significant
3.14-8 (a)	Access roads of an all-weather surface shall be provided so that no portions of the photovoltaic panels are farther than 155 feet from a fire apparatus access road.	Less than Significant
3.14-9 (a)	Access roads shall be a minimum of 20 feet in width (non-obstructed), with a maintained 13 feet 6 inches vertical clearance.	Less than Significant

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Table EX-1 Mitigation Measures		
Checklist Item	Mitigation Measure	Impact after Mitigation
3.14-10 (a)	20-foot fire access roads shall be constructed at intervals of no greater than 310 feet.	Less than Significant
3.14-11 (a)	Applicant shall be responsible for training fire personnel of facility operations, hazards, and emergency procedures for shutting down the operation.	Less than Significant
3.14-12 (a)	Posted address visible from roadway, minimum of 4 inch numbers.	Less than Significant
3.14-13 (a)	If buildings are proposed, National Fire Protection Agency (NFPA) 1142 standards for rural water supplies shall be required.	Less than Significant

Introduction

Chapter 1

LOCAL REGULATORY CONTEXT

The Tulare County General Plan Update 2030 was adopted on August 28, 2012. The General Plan background report contained contextual environmental analysis for the General Plan. Further, the Housing Element for 2009-2014 was adopted on May 8, 2012, and certified by State of California Department of Housing and Community Development on June 1, 2012.

SCOPE AND METHODOLOGY

The County of Tulare has determined that a project level EIR fulfills the requirements of CEQA and is the appropriate level of evaluation to address the potential environmental impacts of the proposed Project. A project level EIR is described in Section 15161 of the State CEQA Guidelines, as one that examines the foreseeable direct and indirect environmental impacts of a specific development project. A project level EIR must examine all phases of the project, including planning, construction, and operation.

This document addresses environmental impacts to the level that they can be assessed without undue speculation (CEQA Guidelines Section 15145). This *Draft Environmental Impact Report (DEIR)* acknowledges this uncertainty and incorporates these realities into the methodology to evaluate the environmental effects of the Plan, given its long term planning horizon. The degree of specificity in an EIR corresponds to the degree of specificity of the underlying activity being evaluated (CEQA Guidelines Section 15146). Also, the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project (CEQA Guidelines Sections 15151 and 15204(a)).

CEQA Guidelines Section 15002 (a) specifies that, “[t]he basic purposes of CEQA are to:

- (1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- (2) Identify the ways that environmental damage can be avoided or significantly reduced.
- (3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- (4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.”¹

CEQA Guidelines Section 15002 (f) specifies that, “[a]n Environmental Impact Report (EIR) is the public document used by the governmental agency to analyze the significant environmental

¹ 2012 CEQA Guidelines, Section 15002 (a)

effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage... An EIR is prepared when the public agency finds substantial evidence that the project may have a significant effect on the environment.... A significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project Further, when an EIR identifies a significant effect, the government agency approving the project must make findings on whether the adverse environmental effects have been substantially reduced or if not, why not.”²

Pursuant to CEQA Guidelines Section 15021 Duty to Minimize Environmental Damage and Balance Competing Public Objectives:

- “(a) CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible.
- (1) In regulating public or private activities, agencies are required to give major consideration to preventing environmental damage.
 - (2) A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment.
- (b) In deciding whether changes in a project are feasible, an agency may consider specific economic, environmental, legal, social, and technological factors.
- (c) The duty to prevent or minimize environmental damage is implemented through the findings required by Section 15091.
- (d) CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment.”³

IDENTIFICATION OF POTENTIALLY SIGNIFICANT IMPACTS

CEQA Guidelines Section 15002 (h) addresses potentially significant impacts, to wit, “CEQA requires more than merely preparing environmental documents. The EIR by itself does not control the way in which a project can be built or carried out. Rather, when an EIR shows that a project would cause substantial adverse changes in the environment, the governmental agency must respond to the information by one or more of the following methods:

- (1) Changing a proposed project;
- (2) Imposing conditions on the approval of the project;
- (3) Adopting plans or ordinances to control a broader class of projects to avoid the adverse changes;
- (4) Choosing an alternative way of meeting the same need;

² 2012 CEQA Guidelines, Section 15002 (f)

³ Ibid., Section 15021

- (5) Disapproving the project;
- (6) Finding that changing or altering the project is not feasible; and,
- (7) Finding that the unavoidable significant environmental damage is acceptable as provided in Section 15093.”⁴ (See Chapter 7)

This *Draft EIR* identifies potentially significant impacts that would be anticipated to result from implementation of the proposed Project. Significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code Section 21068). Significant impacts must be determined by applying explicit significance criteria to compare the future Plan conditions to the existing environmental setting (CEQA Guidelines Section 15126.2(a)).

The existing setting is described in detail in each resource section of Chapter 3 of this document and represents the most recent, reliable, and representative data to describe current regional conditions. The criteria for determining significance are also included in each resource section in Chapter 3 of this document.

CONSIDERATION OF SIGNIFICANT IMPACTS

Pursuant to CEQA Guidelines Section 15126.2, “[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area, as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.”⁵

MITIGATION MEASURES

CEQA Guidelines Section 15126.4 specifies that, “[a]n EIR shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy.

- (A) The discussion of mitigation measures shall distinguish between the measures which are proposed by project proponents to be included in the project and other measures proposed

⁴ 2012 CEQA Guidelines, Section 15002 (h)

⁵ *Ibid.*, Section 15126.2

by the lead, responsible or trustee agency or other persons which are not included but the lead agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.

(B) Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.

(C) Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant...

(D) If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed. (*Stevens v. City of Glendale* (1981) 125 Cal.App.3d 986.)”⁶

“Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments. In the case of the adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design... Mitigation measures are not required for effects which are not found to be significant... Mitigation measures must be consistent with all applicable constitutional requirements, including the following:

(A) There must be an essential nexus (i.e. connection) between the mitigation measure and a legitimate governmental interest. *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987); and

(B) The mitigation measure must be “roughly proportional” to the impacts of the project. *Dolan v. City of Tigard*, 512 U.S. 374 (1994). Where the mitigation measure is an *ad hoc* exaction, it must be “roughly proportional” to the impacts of the project. *Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854.”⁷

⁶ 2012 CEQA Guidelines, Section 15126.4

⁷ *Ibid.*

ORGANIZATION OF THE EIR

CHAPTER 1

Chapter 1 of the *Draft EIR* provides a brief introduction to the Environmental Analysis Required by the California Environmental Quality Act (CEQA).

CHAPTER 2

Chapter 2 of the *Draft EIR* describes the proposed Project. The chapter also includes the objectives of the proposed Project. The environmental setting is described and the regulatory context within which the proposed Project is evaluated is outlined.

CHAPTER 3

This Chapter includes the Environmental Analysis by topic, that is, each resource. Within each topic, the analysis includes the following:

Summary of Findings

Each chapter notes a summary of findings.

Introduction

Each chapter will begin with a summary of impacts, pertinent CEQA requirements, applicable definitions and/or acronyms, and thresholds of significance.

Definitions/Acronyms

Some sub-chapters of Chapter 3 will have appropriate definitions and/or acronyms.

Environmental Setting

Each environmental analysis topic in Chapter 3 will outline the environmental setting for that topic. In addition, methodology is explained when complex analysis is required. The following technical reports have been prepared for the environmental analysis in the DEIR:

- Air Quality – Air Quality and Climate Change Impact Assessment, completed by ERM, May 2013
- Biological Resources – Biological Survey Report, completed by ERM, June 2012
- Cultural Resources – Cultural Resources Survey Report, completed by AMEC, September 2012
- Phase I Environmental Site Assessment, completed by AEC, October 2012
- Custom Soil Resource Report for Tulare County, completed by Provost & Pritchard

- Tulare County Board of Supervisors Adopted Resolutions and Agricultural Zone Land Uses
- Traffic Investigation Statement, completed by Ruettggers and Schuler, February 2013

Although these technical reports were completed during 2012 and 2013, site conditions within the Project area as well as Project assumptions and objectives have not changed since the SUP application for the Project was submitted to the County of Tulare in June of 2012. Therefore the technical reports listed above are adequate to address the environmental impacts of the proposed Project.

Regulatory Setting

Each environmental analysis topic in Chapter 3 will outline the regulatory setting for that topic.

Impacts Analyzed

Each section in Chapter 3 will provide a summary level description of the Project's components to provide an overview of the sources of potential impacts.

Impact Evaluation *Project Impact Analysis*

Each evaluation criteria will be reviewed for Project-specific potential impacts.

Cumulative Impact Analysis

Each evaluation criteria will be reviewed for cumulative potential impacts.

Mitigation Measures

Mitigation Measures will be proposed as deemed appropriate.

Conclusion

Each conclusion will outline whether recommended mitigation measures will, based on the impact evaluation criteria, substantially reduce or eliminate potentially significant environmental impacts. If impacts cannot be mitigated, unavoidable significant impacts will be identified.

References

Reference documents used in each chapter are listed as footnotes in each sub-chapter.

CHAPTER 4

Chapter 4 summarizes the cumulative impacts addressed in Chapter 3.

CHAPTER 5

Chapter 5 describes and evaluates alternatives to the proposed Project. The proposed Project is compared to each alternative, and the potential environmental impacts of each are analyzed.

CHAPTER 6

Chapter 6 evaluates or describes CEQA-required subject areas: Economic Effects, Social Effects, and Growth Inducement.

CHAPTER 7

Chapter 7 evaluates or describes CEQA-required subject areas: Environmental Effects That Cannot be Avoided, Irreversible Impacts, and Statement of Overriding Considerations.

CHAPTER 8

Chapter 8 provides a mitigation monitoring and reporting program that summarizes the environmental issues, the significant mitigation measures, and the agency or agencies responsible for monitoring and reporting on the implementation of the mitigation measures.

CHAPTER 9

Chapter 9 outlines persons preparing the EIR and sources utilized in the Analysis.

APPENDICES

Following the text of this *Draft EIR*, several appendices and technical studies have been included as reference material.

ENVIRONMENTAL REVIEW PROCESS

Pursuant to CEQA Guidelines §15082, the Notice of Preparation (NOP) for the Proposed Project was circulated for review and comment on February 15, 2013 and circulated for a 30-day comment period ending March 18, 2013. Comments were received from the following agencies, individuals, and/or organizations:

- Debra Mahnke, Water Resource Control Engineer, Resource California Water Board, received date February 28, 2013
- David Deel, Associate Transportation Planner, Department of Transportation - Caltrans District 6, received date February 28, 2013, with attachments of previous comments.

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- David Deel, Associate Transportation Planner, Department of Transportation - Caltrans District 6, received date June 15, 2012
- David Deel, Associate Transportation Planner, Department of Transportation - Caltrans District 6, received date January 27, 2012

A copy of the NOP is included in **Appendix A**, including copies of letters received in response to the NOP.

Consistent with CEQA Guidelines Section 15103, “Responsible and Trustee Agencies, and the Office of Planning and Research shall provide a response to a Notice of Preparation to the Lead Agency within 30 days after the receipt of the notice. If they fail to reply within 30 days with either a response or a well justified request for additional time, the Lead Agency may assume that none of those entitles have a response to make and may ignore a late response.”⁸

A Scoping Meeting was duly noticed in a newspaper of general circulation (Visalia Times-Delta) and held on March 7, 2013. No comments were received during this meeting.

Section 15093 of the State CEQA Guidelines requires decision-makers to balance the benefits of a proposed project against any unavoidable adverse environmental effects of the project. If the benefits of the project outweigh the unavoidable adverse environmental effects, then the decision-makers may adopt a statement of overriding considerations, finding that the environmental effects are acceptable in light of the project’s benefits to the public.

As noted in CEQA Guidelines Section 15105 (a), a Draft EIR that is submitted to the State Clearinghouse shall have a minimum review period of 45 days, unless a shortened review period is approved for exceptional circumstances (CEQA, Section 15205(d)). This *Draft EIR* will be circulated publicly for comment on October 2, 2013. Following completion of the 45-day public review period ending November 18, 2013, staff will prepare responses to comments and a *Final EIR* will be prepared. The *Final EIR* will then be forwarded to the County of Tulare Planning Commission for consideration of certification. Notwithstanding an appeal to the County of Tulare Board of Supervisors, a Notice of Determination will then be filed with the County Tulare County Clerk and also forwarded to the State of California, Office of Planning and Research.

⁸ 2012 CEQA Guidelines, Section 15103

Project Description, Setting, & Objectives

Chapter 2

INTRODUCTION

The Tulare Solar Center (the “Project”) includes the construction of an 80 MW solar photovoltaic facility on up to 800 acres of an approximately 1,144 acre property historically used as agricultural farmland in Tulare County, California. The proposed Project site consists of seven parcels in south-central Tulare County. All seven parcels are identified in the Exclusive Agricultural (AE-40) zone district and designated as Rural Valley Lands under the Tulare County General Plan Land Use Map. These General Plan and zoning designations expressly allow the installation of renewable solar power with a Special Use Permit. Additionally, the Tulare County Board of Supervisors has adopted the following Resolutions which allow photovoltaic land uses in designated agricultural lands. The Resolutions are provided in their entirety in Appendix G of this DEIR:

- Resolution No. 89-1275 Uniform Rules for Agricultural Preserves
- Resolution No. 99-0620 Establishing Rules on Farmland Security Zones
- Resolution No. 2010-0458 Interpretation to the Tulare County Zoning Ordinance No. 352 for Solar and Wind Electrical Generation Facilities County Wide
- Resolution No. 2010-0590 Amendment to Resolution Interpretation to Tulare County Zoning Ordinance No. 352
- Resolution No. 2010-0591 Compatibility for Public and Private Utility Structures Located on Agricultural Zoned Lands and Lands Under Williamson Act Contracts
- Resolution No. 2010-0717 Establishing Criteria for Public and Private Utility Structures Proposed on Agricultural Zoned Lands and Lands under Williamson Act Contracts¹.

PROJECT LOCATION

The proposed 1,144.33 acre Project site is currently undeveloped farmland situated in south central Tulare County. Approximately 572 acres (or approximately 50%) of the proposed Project site is located east of State Route (SR) 65 and south of Avenue 24, with the remainder located west of State Route 65 and north of Avenue 12. SR 65 bisects the site approximately at the site’s east-west mid-point, a paved County road (Avenue 24) runs adjacent to the northern portion of the Project site, and an unpaved road (Avenue 12) runs adjacent to the majority of the Project site’s southern boundary. The smaller portion of the proposed Project lies to the west of SR 65, primarily north of Avenue 12, east of Road 224, and northward approximately 1,200 feet to an unpaved road parallel to Avenue 12. The west side of the Project site is primarily bounded by unpaved roads.

The proposed Project site spans across several sections in the Public Land Survey System, and is listed as follows;

¹ Appendix G, Tulare County Board of Supervisors adopted Resolutions

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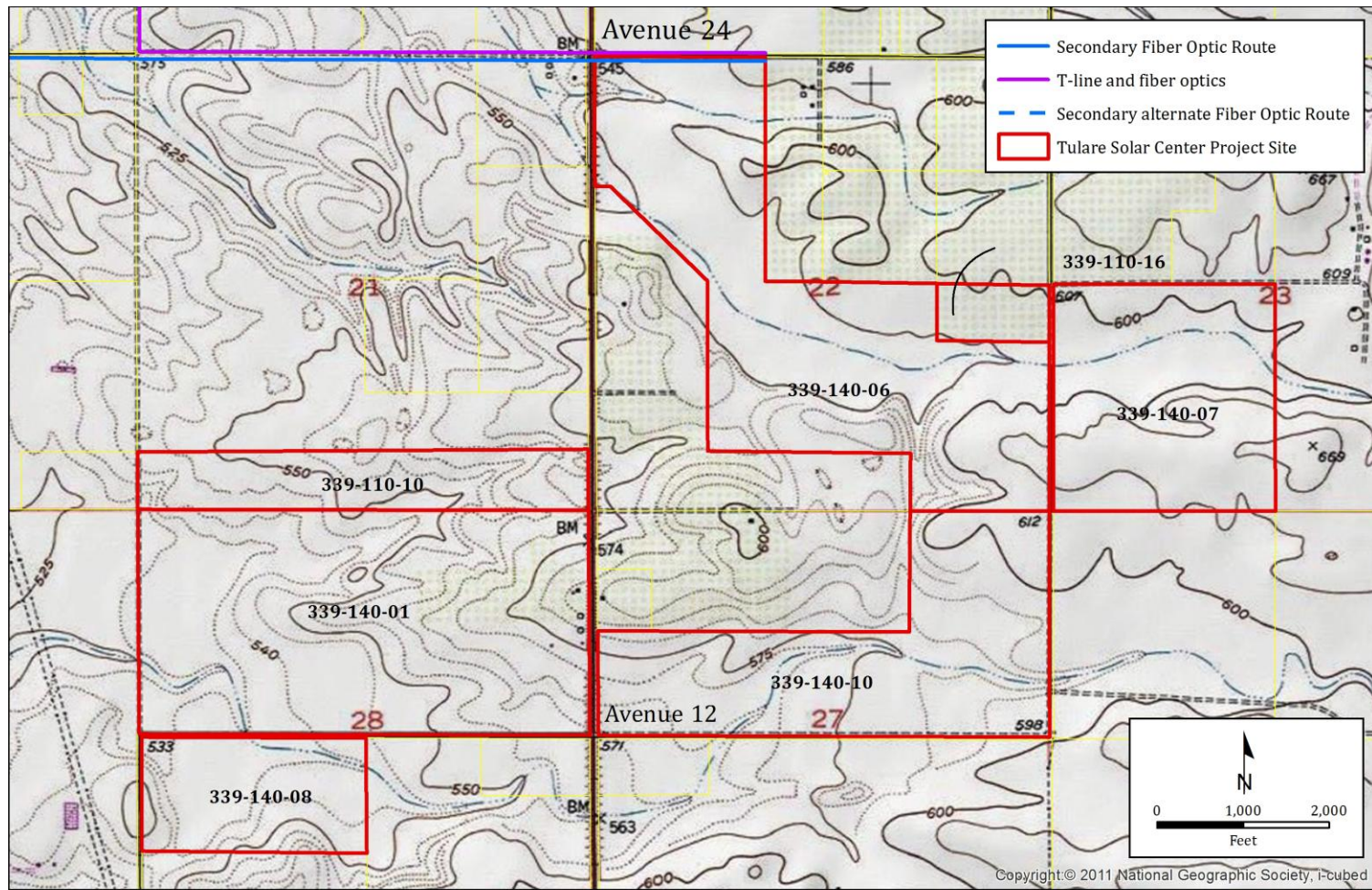
- A portion of Assessor's Parcel Number APN 339-100-07, is in Section 23, Township 24 South, Range 27 East;
- A portion of APNs 339-110-06 and 339-110-16 are in Section 22, Township 24 South, Range 27 East;
- A portion of APN 339-110-10 is in Section 21, Township 24 South, Range 27 East.
- A portion of APNs 339-140-01 and 339-140-08 and are in Sections 28, Township 24 South, Range 27 East; and
- A portion of APN 339-140-10 is in Sections 27, Township 24 South, Range 27 East

All identified parcel numbers can be found within the Tulare United States Geological Survey (USGS) 7.5 minute topographic quadrangle at:

Latitude: N 35° 49' 22.883"

Longitude: W 119° 03' 12.954"

**Figure 2-1
Topographic Map**

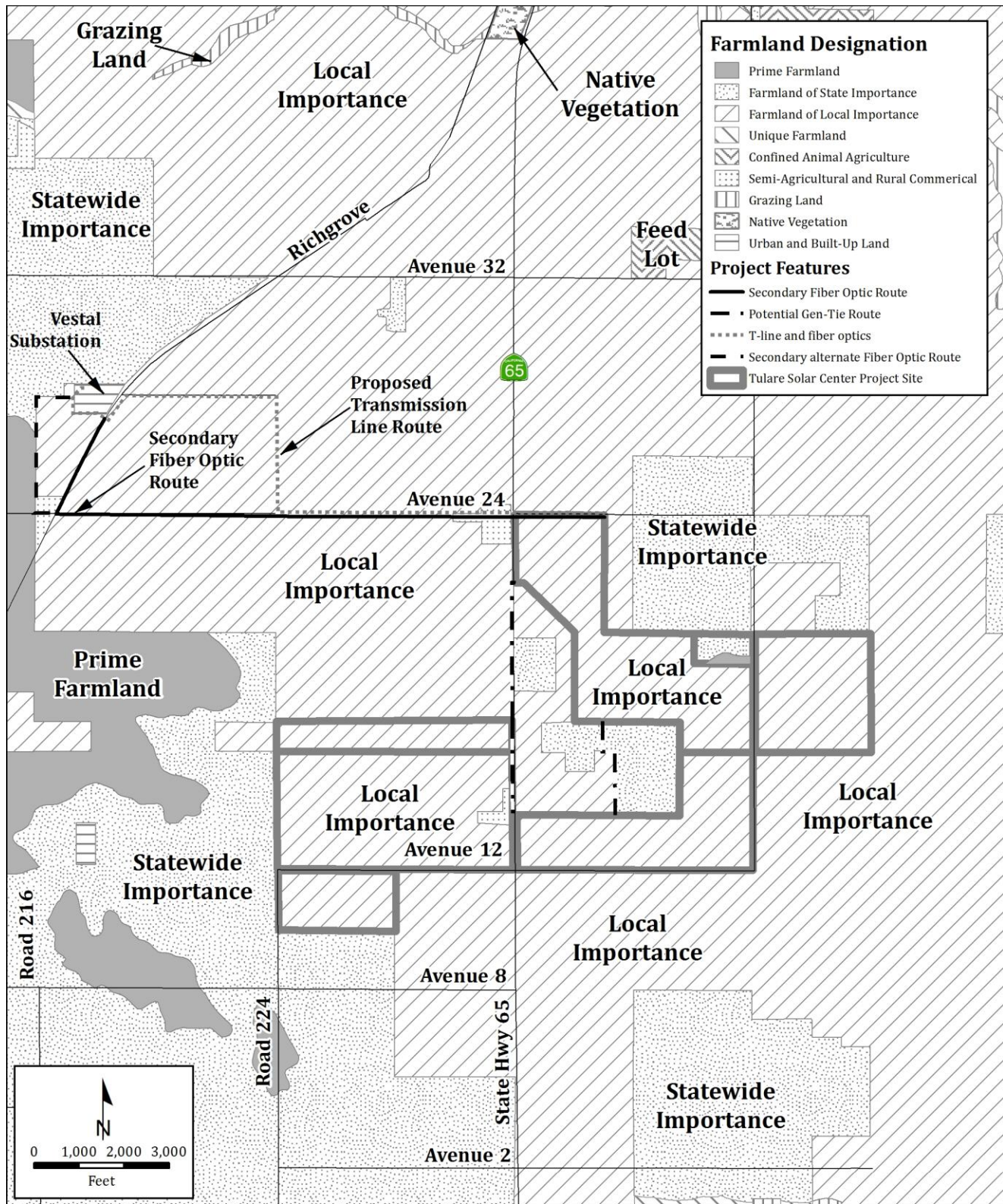


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The proposed Project site consists of 1,144 acres of farmland zoned for agriculture. Approximately 50% percent of the proposed Project site is dry land farmed, while the remainder is fallow and annually disced. Each year, the areas are rotated, thus 50% of the areas may be farmed one year and fallowed/disc'd the next. The proposed Project site is primarily designated as Farmland of Local Importance by the California Farmland Mapping and Monitoring Program (FMMP), with the exception of one 20-acre parcel (which has a Lands of Statewide Importance designation) as shown on Figure 2-2. All proposed Project lands are contracted under the Williamson Act. Of the seven parcels associated with the proposed Project site, Assessor's Parcel Number (APN) 339-140-01 is the only property that contains site improvements, including a farm house, a shop, a storage building, and related servicing utilities facilities. With the exception of AE-20 zoned properties west of the Project boundary, as shown in Figure 2-3, all other surrounding properties are zoned AE-40. All neighboring, adjacent properties are currently utilized as active farmlands.

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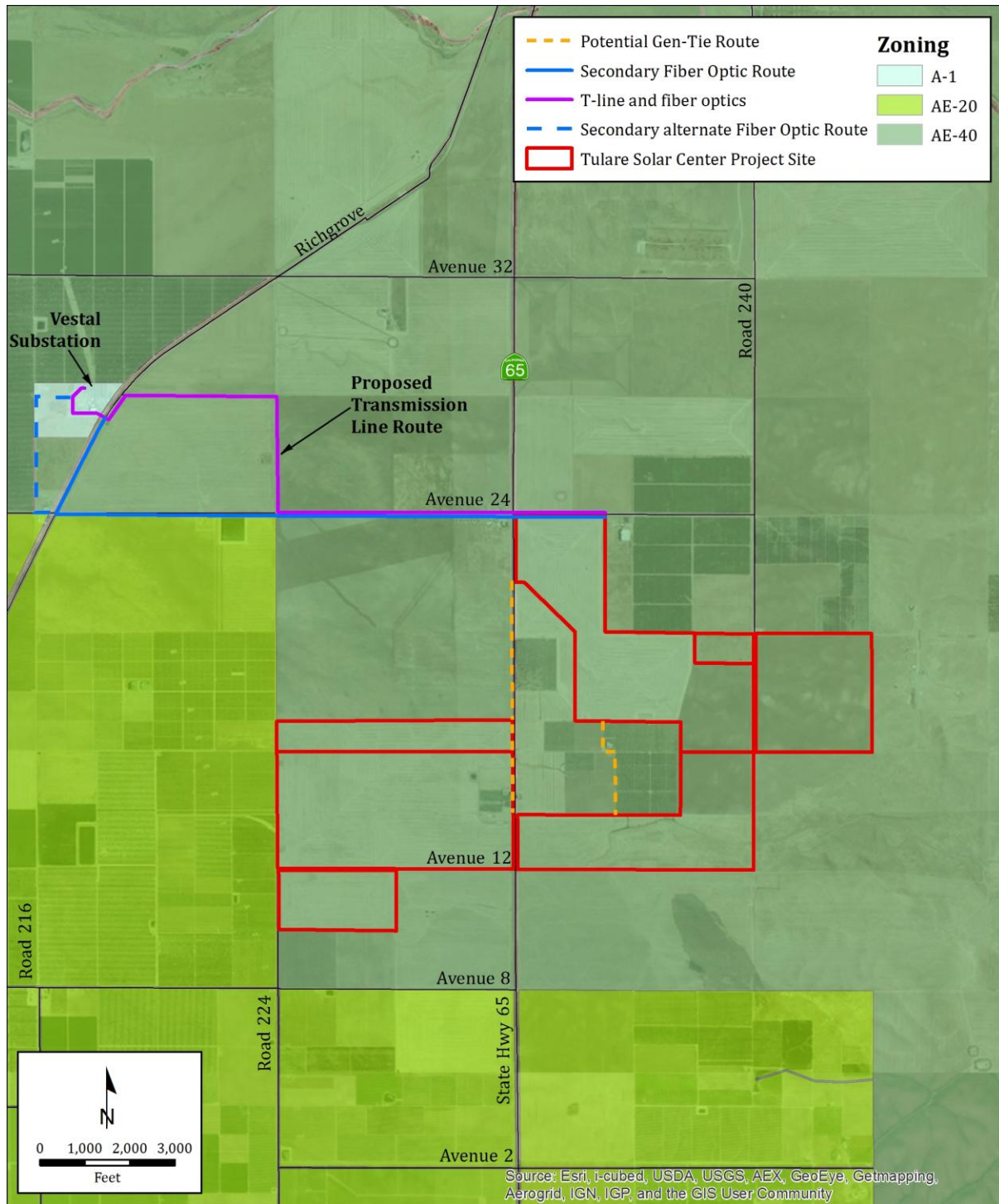
Figure 2-2
California Farmland Mapping and Monitoring Program



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**Figure 2-3
Tulare County Zone Map**

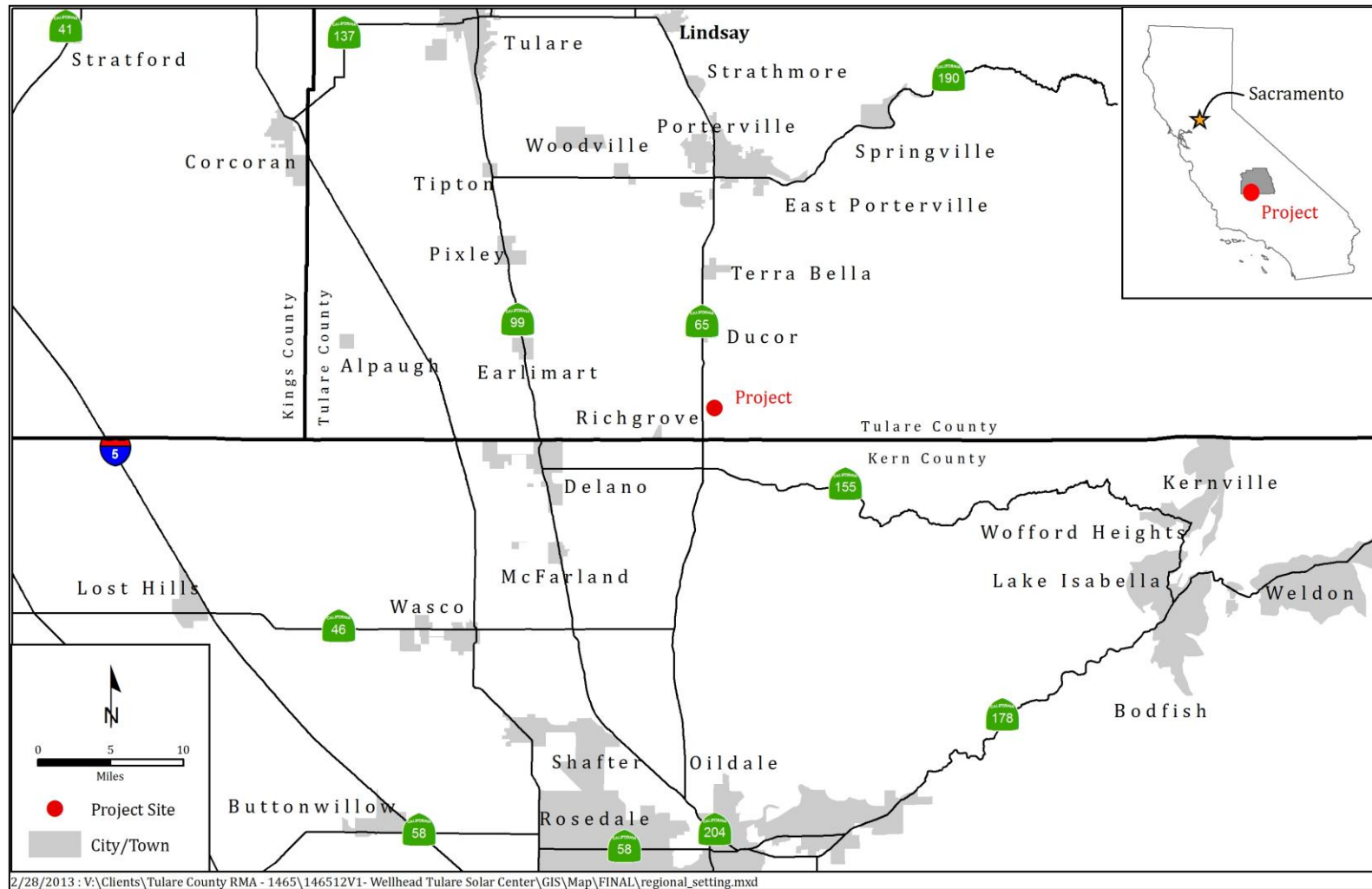


PROJECT VICINITY

State Route 65 travels in north-south direction and bi-sects the proposed Project site approximately at its west-east midpoint. State Route 99 is approximately 11.65 miles west of the site (see Figure 2-4 Regional Map). Major natural features in the area include the Sequoia National Forrest in the Sierra Mountains located approximately 37 miles to the east of the site. The proposed Project site is located approximately 60 miles east of the Coast Range and approximately 37 miles west of the Sierra Nevada Mountain Range. Lake Isabella is located approximately 35 miles to the east-southeast of the site, Lake Success is approximately 18 miles north-northeast, and Lake Kaweah is approximately 40 miles north-northeast of the proposed Project site. The closest identified minor fault line is the Poso Creek fault zone approximately 15 miles southwest of the proposed Project site. The nearest major fault line is the San Andreas fault zone; approximately 56 miles southwest. The proposed Project is located near various unnamed fault lines with minimal amplification, as seen in Figure 2-6, Fault Zones. An aerial photo of the proposed Project boundary is shown as Figure 2-5 Aerial View.

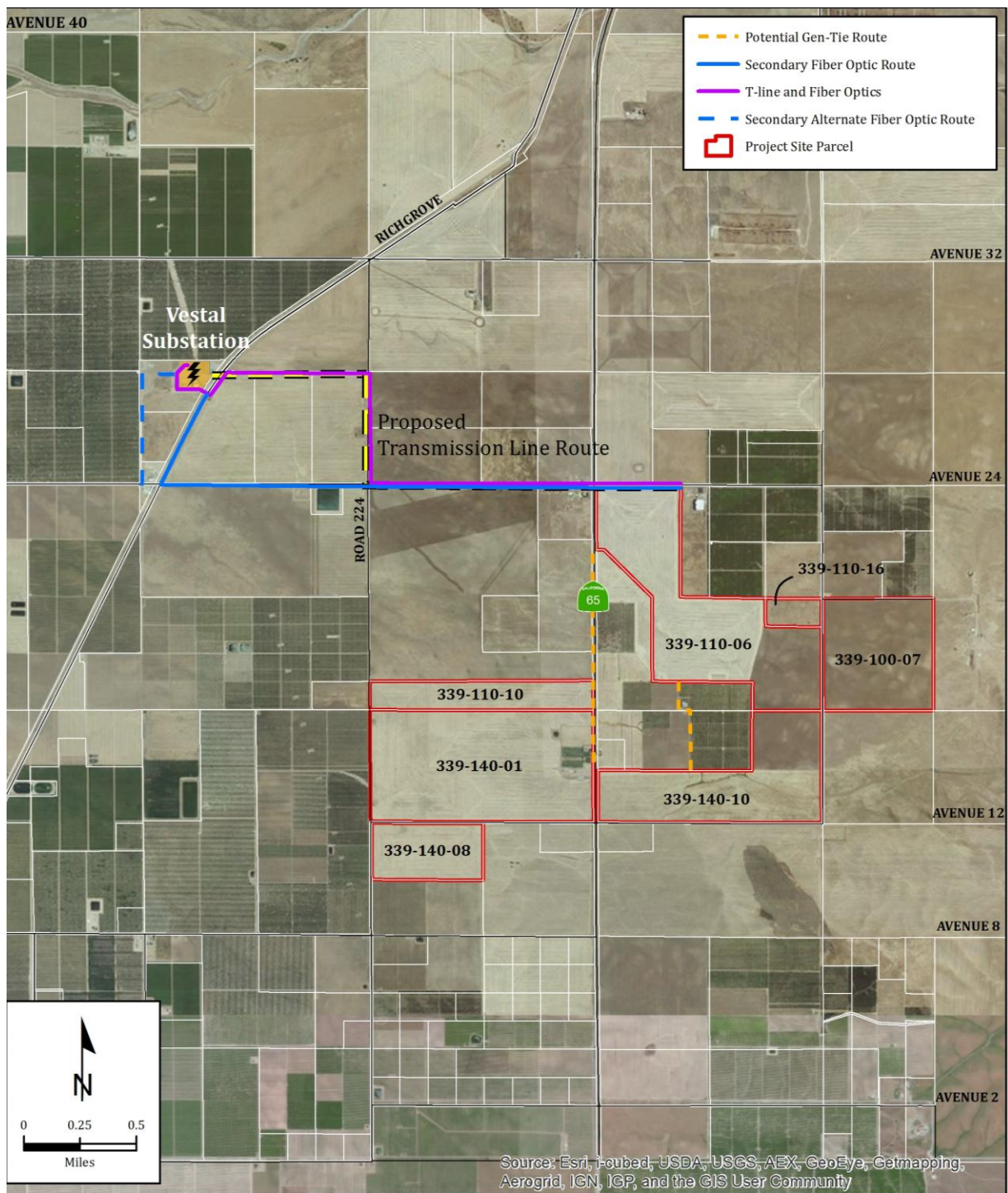
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Figure 2-4
Regional Map



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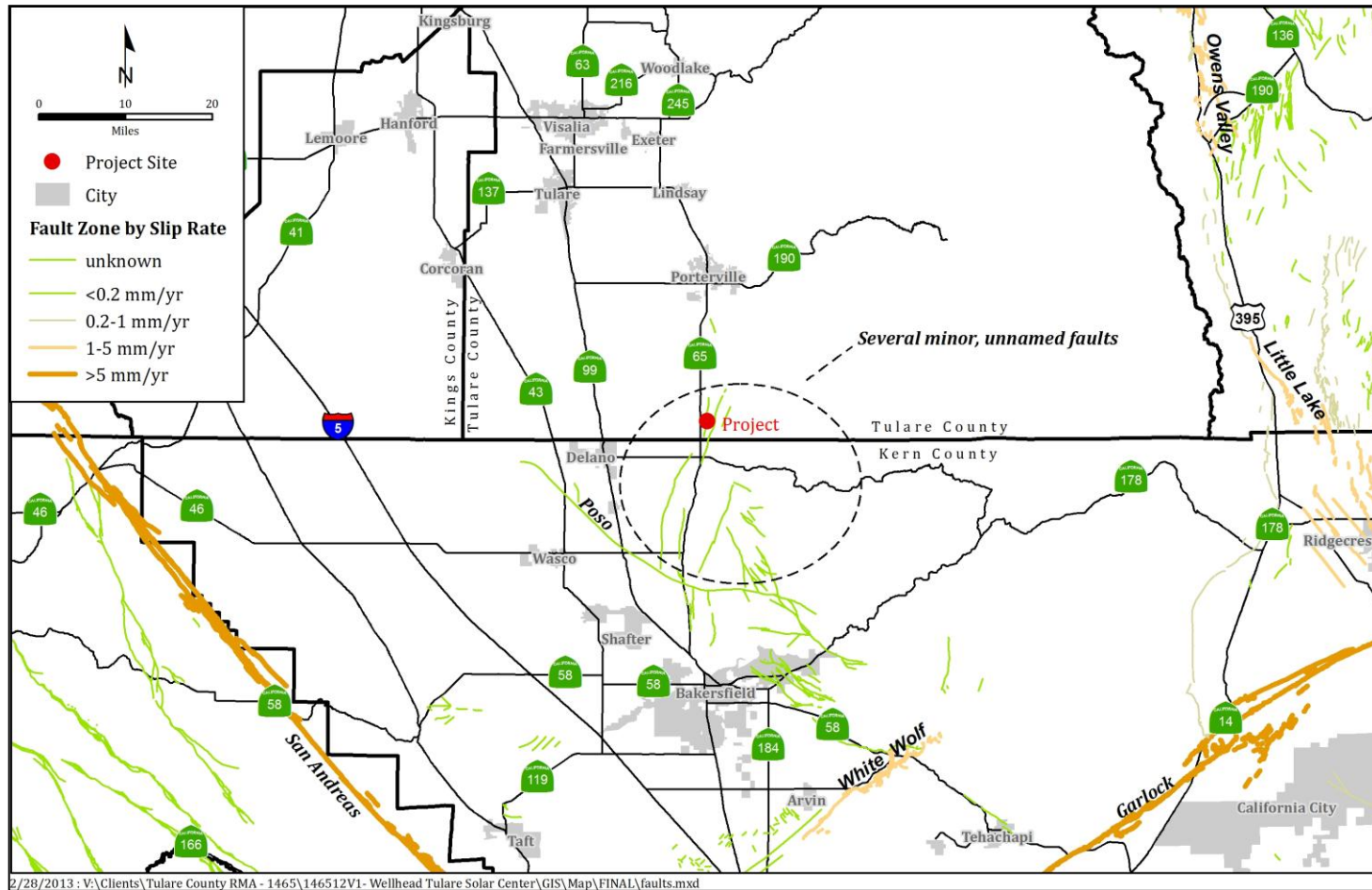
Figure 2-5
Aerial View



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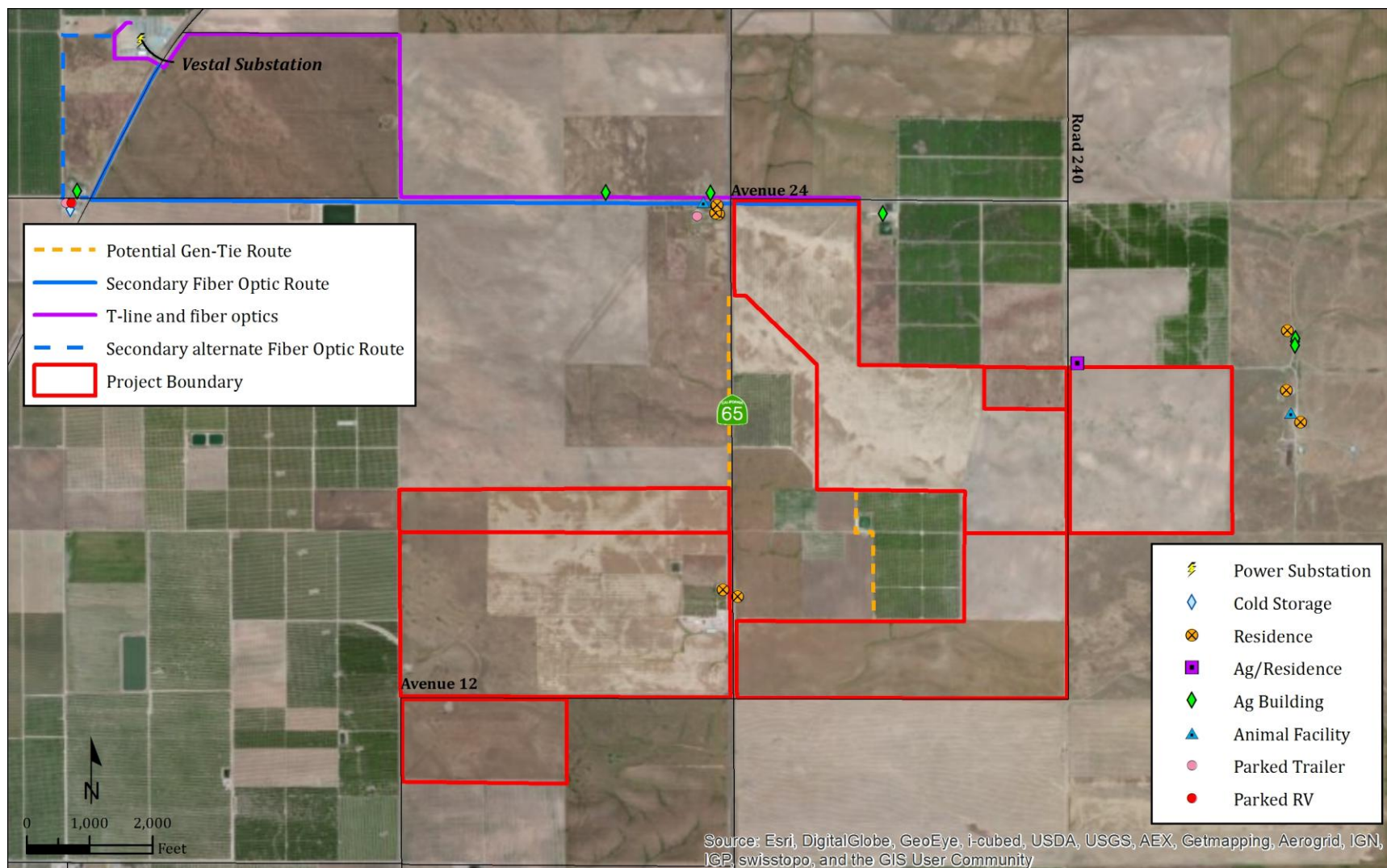
Figure 2-6
Fault Zones



SURROUNDING LAND USE

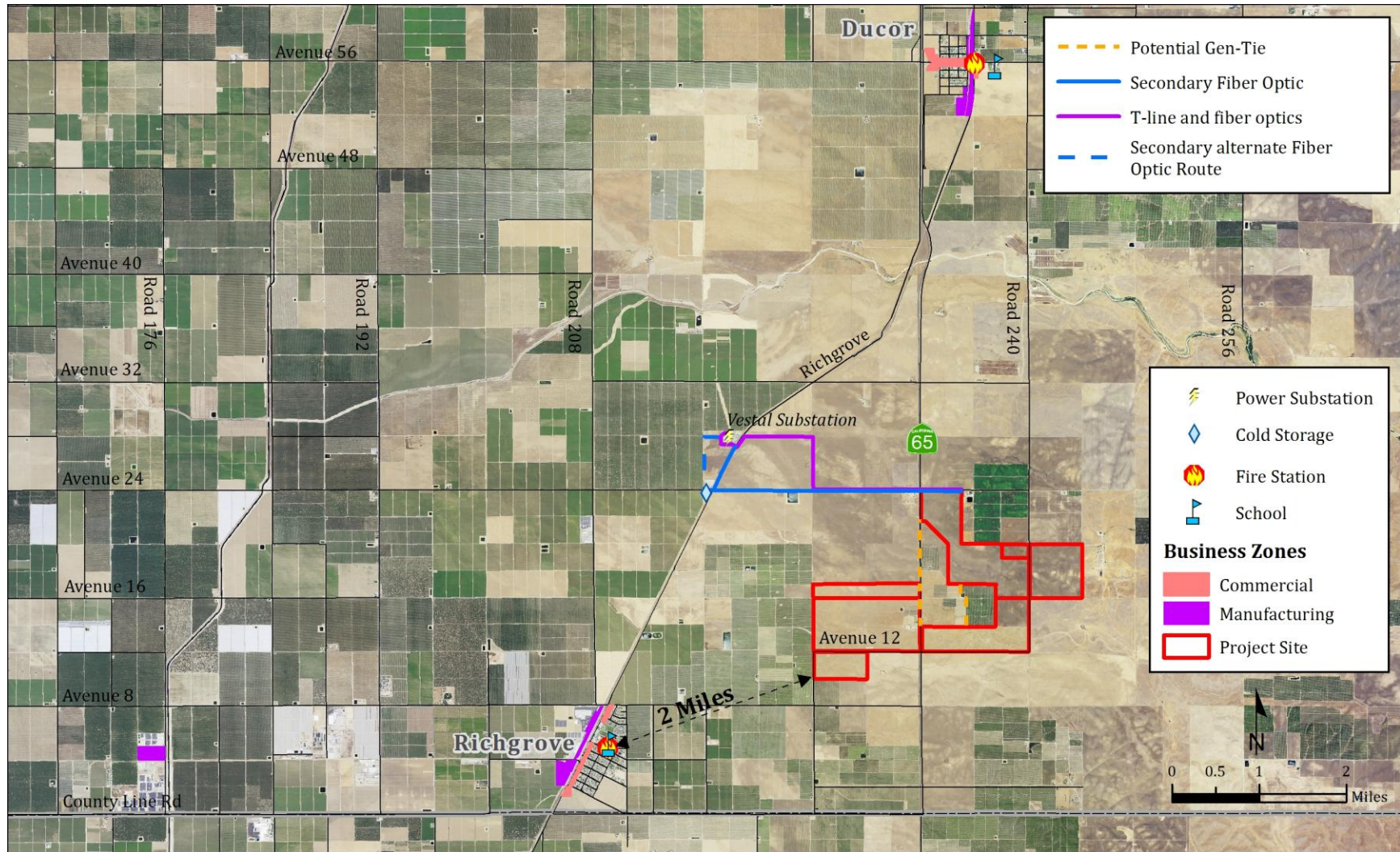
Surrounding land uses are primarily agricultural mixture of orchards, row crops, dry farming, and farmed lands; several rural residences are located within one quarter mile of the site. A rural residence is located on APN 339-140-01 of the proposed Project site; however, the proposed Project will not disturb existing structures as site development will occur around existing structure facilities. Rural residences are located adjacent to SR 65 and Avenue 24, with two residences (owned by the landowner) surrounded by the Project, and other lying west and east of the Project's northern extremes. Commercial businesses, schools, and fire stations facilities are all located to the north and southwest of the proposed Project site (see Figure 2-7, "Map of Sensitive Receptors A"). Ducor Union Elementary School is located approximately four miles north-northeast of the site, and Richgrove Preschool and Richgrove School District are located approximately two miles southwest of the Project site (see Figure 2-8, "Map of Sensitive Receptors B").

Figure 2-7
Map of Sensitive Receptors A



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Figure 2-8
Map of Sensitive Receptors B



PROPOSED USE

The proposed Project is a solar photovoltaic (PV) generating facility comprised of solar modules, inverters, access roads, and electrical equipment. The proposed Project anticipates the inclusion of one or several substations not to exceed five such substations on the Project site. The proposed Project would also include overhead subtransmission and communications lines (each approximately 2.5 miles in length) from the Project site to SCE's Vestal substation, on-site underground and overhead power lines, underground electrical facilities within the site and solar panel areas, and a control-equipment enclosure/operations and maintenance (O&M) building that will include space for several uses, including control equipment housing, shop space, and spare parts storage, with future uses to potentially include a worker break area and restroom. The energy produced by the proposed Project would be sold to a public utility company, a municipality, or a California Independent System Operator (CAISO) market participant, and ultimately distributed for public consumption.

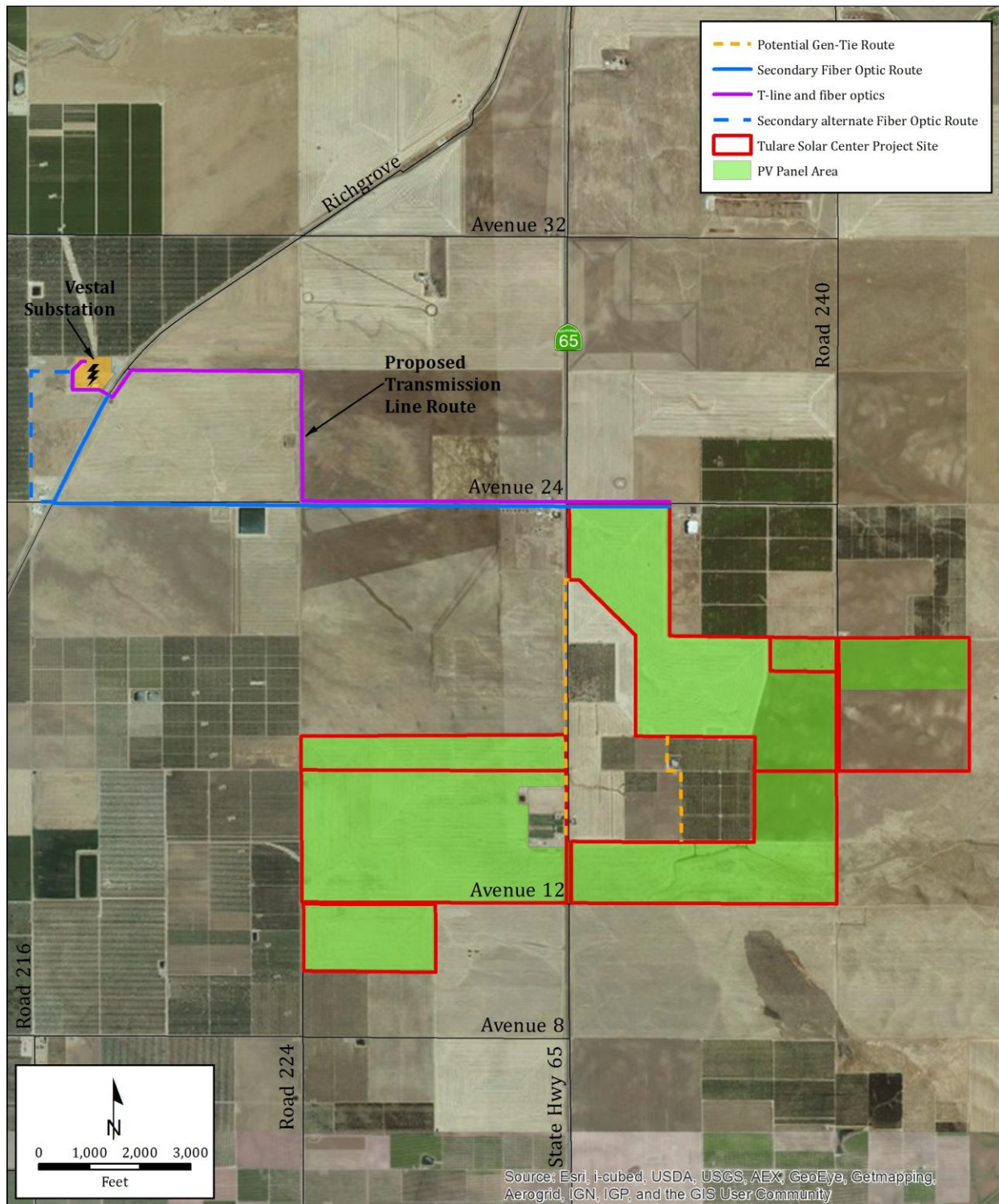
Construction of the proposed Project generally requires a focus in three major areas. The areas of focus include: (1) the solar field with associated equipment, including solar PV panels/modules, racking systems, inverters, intermediate voltage transformers, access roads, trenching and undergrounding electrical wiring within the solar facility, installation of above-ground and overhead electrical systems to collect and consolidate power from across the Project, (2) a substation(s) that receives the solar field's electrical production and increases the voltage to match the voltage of the adjacent utility grid via a generator step-up transformer(s), with Project owned generation tie lines (gen-tie lines), and (3) other electrical interconnection components necessary for the Project's production to reach the utility grid, including disconnect equipment (switchyard), communications lines (e.g. fiber optics) and a subtransmission tap line, with off-site impacts illustrated in Figure 2-9.

The proposed Project perimeter will be secured by an 8-foot-high, chain-link perimeter fence, potentially topped with barbed wire for added facility security. Proposed Project access will be gained through several normally locked gates. Most of the Project site lacks Kit Fox habitat, as the site is regularly disc-plowed or planted with dry crops such as barley, wheat, and similar dry crops.² There is a low-moderate potential for the San Joaquin Kit Fox habitat to occur in the Project site, however potentially active Kit Fox burrows have been identified around and in neighboring properties adjacent to the Project site. The perimeter fencing will be designed and installed with appropriate vertical clearance segments (see Appendix C) for species to cross through the proposed site, similar to the accommodations that have been required of other solar PV projects in Tulare County.

² Appendix C Biology Study

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Figure 2-9
Tulare Solar Center Concept Plan



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REGULATORY SETTING

The Tulare County Zone Map identifies all seven properties in the proposed Project's boundary within the Exclusive Agricultural (AE-40) zone district and all are designated as Rural Valley Lands under the Tulare County General Plan. The California Department of Conservation's Farmland and Mapping Monitoring Program identifies six parcels as Farmland of Local Importance, while one approximately 20-acre property is identified as Farmland of Statewide Importance. The proposed Project is consistent with Tulare County Ordinance, Section 16 of Ordinance 352, as amended, allowing solar photovoltaic electric generating facilities within agricultural zoned lands, subject to a County approved Special Use Permit and Developer Agreement. The proposed Project is subject to the following Federal, State and Local laws, regulations, and regulatory agencies:

Federal Regulations

- Title 23, USC 109, Highway Standards
- Federal Farmland Protection Act (FFPA)
- US Forest Service
- Federal Clean Air Act
- Federal Endangered Species Act
- Habitat Conservation Plans, Endangered Species Act of 1973, Section 10 (a)(1) (B)
- Migratory Bird Treaty and Bald and Golden Eagle Protection Act
- Clean Water Act - Section 404
- The National Historic Preservation Act
- Hazardous Materials Transportation Act
- Compensation and Liability Act of 1980 (CERCLA), Superfund
- Safe Drinking Water Act
- Environmental Protection Agency
- Army Corps of Engineers
- National Flood Insurance Program
- Federal Highways Administration (FHWA) Highway Traffic Noise Prediction methodology
- US Department of Housing and Urban Development (HUD)
- Federal Aviation Administration (FAA)
- Resource Conservation and Recovery Act (RCRA)
- United States Department of Energy (DOE)

State Regulations

- California Clean Air Act
- California Air Resource Board Airborne Toxic Control Measures
- California Department of Conservation: Farmland Mapping and Monitoring Program
- Williamson Act: California Land Conservation Act of 1965
- California Department of Forestry and Fire Protection (CAL FIRE)
- California Air Resources Board Airborne Toxic Control Measures
- California Department of Fish and Wildlife (formerly Dept. of Fish and Game)
- California Endangered Species Act
- California State Office of Historic Preservation (OHP)
- Tribal Consultation Requirements: SB 18 (Burton, 2004)
- Cal/EPA Department of Toxic Substance Control (DTSC)
- California Occupational Safety and Health Administration (Cal/OSHA)
- Surface Mining and Reclamation Act of 1975 (SMARA)
- Regional Water Quality Control Board, Water Discharge Requirements
- California Public Utilities Commission (CPUC)
- California Energy Commission (CEC)

Local Regulations

County Planning, Engineering and Building Departments

- Compliance with all general plan land uses, zoning regulations, and development codes
- Compliance with all fire codes
- Compliance with all engineering standards Compliance with all building requirements

County Environmental Health & County Solids Waste Division

- Compliance with solid waste handling requirements
- Compliance with odor and vector controls

San Joaquin Valley Unified Air Pollution Control District

- 2012 PM_{2.5} Plan
- 2009 RACT [Reasonably Available Control Technology] SIP
- 2008 PM_{2.5} Plan
- 2007 Ozone Plan
- 2007 PM₁₀ Maintenance Plan

- 2004 Extreme Ozone Attainment Demonstration Plan
- Rule 9510 Indirect Source Review
- Air Emissions permitting and rules/regulations

Local utility and special district requirements

- Compliance with standards for substation connection

REQUIRED PERMITS

The proposed Project would require, but not be limited to, the following local, state, and federal regulatory requirements:

- The finding of compatibility with the Williamson Act Contract by the Tulare County Board of Supervisors.
- The approval of a developer agreement by the Tulare County Board of Supervisors.
- The certification of the Environmental Impact Report by the County of Tulare.
- The issuance of Special Use Permit PSP 11-062 by the County of Tulare.
- Approval of a Stormwater Pollution Prevention (construction) Plan by the Central Valley Regional Water Quality Control Board.
- Compliance with Regulation VIII (Fugitive PM 10 Prohibitions) of the San Joaquin Valley Unified Air Pollution Control District.
- Compliance with Rule 9510 (Indirect Source Review) of the San Joaquin Valley Unified Air Pollution Control District.

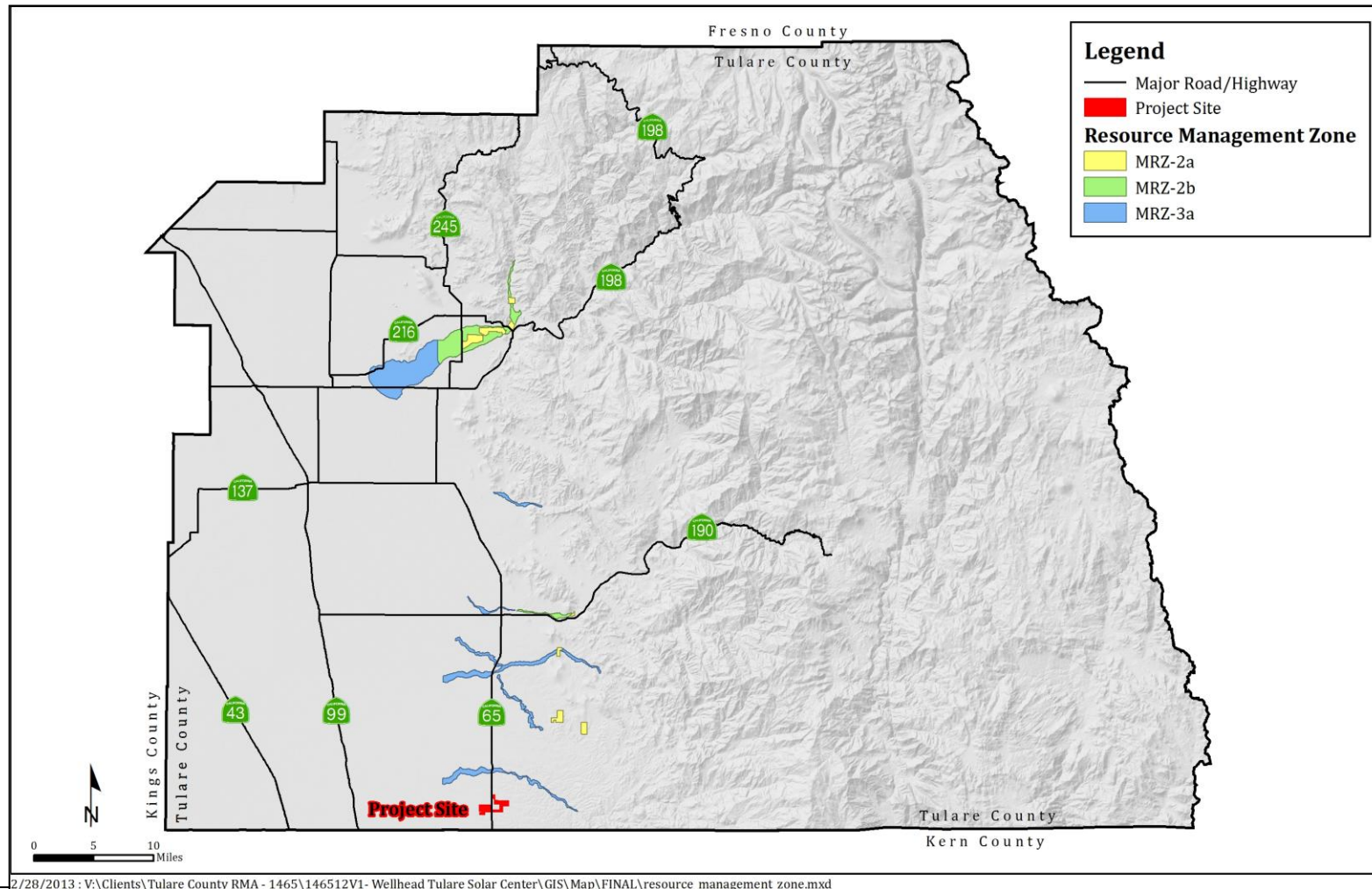
EXISTING OPERATIONS

The 1,144 acre proposed Project site historically has been utilized as agricultural farmland. The proposed Project site does not contain any identified sensitive mineral resources, as shown in Figure 2-10, Mineral Resource Zones. The proposed Project would be constructed on previously disturbed agricultural land. The proposed Project site is located in close proximity to existing electric transmission system infrastructure providing the opportunity for a cost effective electric grid connection.

A majority of the proposed Project site is generally undeveloped with the exception of APN 339-140-01. APN 339-140-01 contains several site improvements including a farm house, a shop, a storage building, and related servicing utilities. The proposed Project will not impact these improved areas, since development will occur around the existing facilities. The proposed Project site consists of approximately 1,144 acres of farmland. As noted earlier, approximately 572 acres or about 50% of the proposed Project site is currently dry land, while the remaining half is fallow and is annually disced. These two areas are annually rotated, so every two years, the entire 1,144 acre site has been both fallowed and dry land farmed. The proposed Project site lacks irrigation water and prime soils, which historically has resulted in sub-optimal/economically unproductive and sporadic dry-farming seasons.

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Figure 2-10
Mineral Resource Zones³



³ 2030 Tulare County General Plan, page 8-12

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

PROJECT COMPONENTS

The proposed Project is a solar photovoltaic generating facility comprised of solar modules, inverters, related electrical equipment, access roads, communications lines, and electrical power lines. The proposed Project anticipates including up to five substations on the Project site. The proposed Project would include off-site overhead subtransmission and communications lines between the Project site and SCE's Vestal substation, an off-site generation tie-line, on-site underground and overhead electrical power lines, trenching and undergrounding of electrical wiring within the solar facility, and a control-equipment enclosure/operations and maintenance building that will include space for several uses, including control equipment housing, shop space, and spare parts storage, with future uses to potentially include a worker break area and restroom. The energy produced by the Project will be sold to a public utility company, a municipality, or a CAISO market participant, and ultimately distributed for public consumption.

There are three main proposed Project components:

- 1) Solar Facility: Approximately 800 acres of PV panels/modules, racking systems (which may or may not include tracking devices), inverters, intermediate voltage transformers, access roads, and underground, above-ground, or overhead electrical systems to collect and consolidate power from across the project, including an off-site generation tie-line; and,

- 2) Project Substation: A substation(s) that receives the solar field's electrical production and increases the voltage to match the voltage of the adjacent utility grid via a generator step-up transformer; and,
- 3) Interconnection Facilities: Utility-owned above ground electrical interconnection components necessary for the proposed Project's production to reach the utility grid, including disconnect equipment, communications lines (e.g. fiber optics), a subtransmission tap line, and necessary modification to existing utility subtransmission power lines.

Solar Facility

Photovoltaic Modules and Installation

PV panel manufacturing will be completed offsite at the original equipment manufacturer's location, and transported to the Project site. Although selection of the panel/module's original equipment manufacturer has not been finalized, the general characteristics of the photovoltaic modules are that they are covered with dark, high-light-absorbing, low-reflective glass, and will be mounted on a corrosion-resistant metal racking system.

The structural support system (the racking system) for the PV module arrays will consist of corrosion-resistant metal supports (such as galvanized steel) and will be anchored utilizing prudent engineering principles. This racking system utilizes support posts, which are typically spaced 10 feet apart, approximately 13 feet in overall length, and driven to a depth resulting in approximately 4 feet of the post remaining above grade. Although other systems are under consideration (including a skid-mounted design utilizing screw-in anchors, or ballasts) it is anticipated that the vibra-driven posts would have the greatest degree of construction and reclamation impacts, and as such, will be utilized for the environmental impact analysis.

Generally, once the support posts have been installed, horizontal support cross-members will be placed and secured. Then a galvanized metal (or aluminum) racking system will be assembled which will allow the PV modules to be mounted on the overall support assembly. In the case of a skid-mounted design, greater degrees of assembly are anticipated at a central location, (e.g., at the edge of the solar field) with subsequent relocation via a forklift of other mechanized equipment.

Depending upon final equipment design selections, the module support system may also include electro-mechanical drive systems for tracking of the sun's direct rays across the horizon. Addition of such a tracking system will not create significant impacts beyond the process described previously.

If the final Project design specifies use of a fixed module system, the arrays would be generally oriented along an east-west axis with the modules facing generally to the south. Optimal array orientation could utilize an approximate 25° clockwise orientation, such that the modules face

25° to the west of due south, i.e., an approximate azimuth of 205°. The module configuration would measure approximately seven feet in width. The modules would be tilted at an approximate 20- to 40-degree angle, or as otherwise determined necessary during final Project design in order to maximize the panel's solar exposure.

Alternatively, in the case where a single-axis tracking system is selected, the arrays would be oriented along a north-south alignment, with the array angle automatically controlled to optimize tracking the sun's path. All other characteristics for the arrays would remain equivalent to the description above, except that the module tilt would likely be flat, or close to 0 degrees.

In either a fixed or single-axis tracking configuration, preliminary design indicates each row of modules to be approximately 300 feet in length (east/west for a fixed system, or north/south for a single-axis system). Final row lengths and spacing between each row (estimated at approximately 10 to 22 feet) will be determined upon completion of final equipment selection and design. The estimated maximum height of the module system measured from ground surface would be approximately 12 to 15 feet.

Module Interconnections, Inverters, and Intermediate Transformers

Once physically attached to the module/panel tracking system, the modules would be electrically connected into strings with those strings electrically connected to each other (via code-compliant methods) either overhead, or below ground. The arrays' electrical cables will converge on inverter locations and will be arranged into power blocks. The cables from the modules (or panels) convey direct current (DC) electricity to the inverters which are electrical devices to convert electricity from direct current (DC) to alternating current (AC) electricity. Any underground cables will be installed utilizing typical construction techniques, for example, a rubber-tired backhoe excavator or trencher. All electrical facilities and apparatuses will be installed in compliance with all pertinent codes.

The inverters and associated medium-voltage transformers would be placed on concrete foundations (or pre-manufactured base-skids) and strategically located throughout the solar generation field. The Project will be designed and laid out in standard sized array blocks (e.g., 1-MW). Each of these blocks will include inverters and intermediate step-up transformer(s). The inverter/transformer equipment areas vary in size for each array block, but typical dimensions are approximately 40 feet by 25 feet. The size of these areas will ultimately be determined by final equipment selection.

Project Power Conveyance

Power produced by the proposed Project will be collected from each medium-voltage (or intermediate) transformer location, and conveyed to the Project substation(s) via on-site power-lines that will either be overhead or underground according to final design. The power will be transformed at the Project substation(s) from the medium-voltage level (e.g. 12 kV or 34.5 kV) to match SCE's adjacent system voltage (i.e., 66 kV), and will then be conveyed to SCE's interconnecting switchyard via an overhead generation tie-line(s) (gen-tie). Depending on final

layout and placement of a Project substation(s) and SCE's interconnecting switchyard, the gen-tie line(s) is anticipated to be approximately 200 to 2,800 feet in length, but could be as long as 2.25 miles. In addition to planning to accommodate the gen-tie on the Project site, alternative off-site routings on right-of-ways across adjacent property may be used, with such off-site routes depicted on Figure 2-9. In the event of a 2.25 mile gen-tie line, up to forty new on-site utility poles, or off-site along routes depicted in Figure 2-9, would be required.

Project Substation

The proposed Project substation(s) will accept medium-voltage AC electricity from the intermediate transformers, and increase the voltage to a level necessary to match the voltage on the utility-owned grid. Depending on final facility design, utility requirements, and the Project's ultimate build-out size, multiple substations could be required. Substation construction will be compliant with all building code requirements, the interconnecting utility's standards and requirements, and prudent utility practice.

Structures and equipment necessary for each substation include, but are not limited to:

- Various concrete footings and foundations
- A generator step-up transformer
- Isolation switches
- Metering transformers
- Structural steel
- Substation control enclosure
- Perimeter fencing (8-foot-high mesh topped by 3 to 6 strands of barbed wire)

Each project substation is expected to measure approximately 80 feet by 110 feet (ultimately determined by Southern California Edison (SCE)). The substation(s) will be located on the Project site. The preliminary design anticipates placement of the substation (or the initial substation) and related equipment along the northern site boundary adjacent to Avenue 24. Alternate/secondary substation locations are included in Appendix L, and allow a "greatest impacts" analysis to be conducted. Each substation would require one generator step-up transformer which would increase the voltage from mid-level voltage to high-voltage, e.g. 12 kV or 34.5 kV to 66 kV. The transformer(s) will be oil-filled with forced air cooling.

Interconnection Facilities

Electrical Interconnection

The proposed Project would interconnect with an existing SCE subtransmission line which runs adjacent to the proposed Project site's northern boundary along Avenue 24. The line also passes through the eastern portion of the Project site in a north-south orientation along Road 240. The

electrical interconnection would utilize an SCE-owned switchyard, which is similar in construct to the Project substation.

Structures and equipment necessary for the switchyard include, but are not limited to:

- Various concrete footings and foundations
- Isolation switches
- Structural steel
- Switchyard control enclosure
- Perimeter fencing (8-foot-high mesh topped by 3 to 6 strands of barbed wire)

The switchyard is expected to measure approximately 50 feet by 50 feet (ultimately determined by Southern California Edison (SCE)). The switchyard will be located on the Project site. The initial design anticipates placement of the switchyard along the northern site boundary adjacent to Avenue 24, approximately 300 feet east of Highway 65.

A segment of overhead 66 kV power line (the tap line) will connect the switchyard to SCE's subtransmission line. The tap line is anticipated to be approximately 200 to 2,800 feet in length, depending on final arrangement. An encroachment permit may be required for the tap line to reach the Point of Interconnection (POI) with the utility subtransmission line, and will be obtained as necessary upon final design approval by SCE. It is anticipated that approximately two to eight new utility poles will be needed to connect the switchyard to the subtransmission line, i.e., for the tap line.

Additionally, SCE's interconnection study results for the proposed Project indicate that SCE's Vestal-Kern River 3 66-kV subtransmission line will require an upgrade consisting of approximately 2.5 miles of conductor and insulator replacement, including replacement of up to 40 new wooden poles with a maximum height of 40 feet. Conductor and insulator replacement activities would occur within an approximate 100-foot-wide corridor along the route. At each turn in the route, SCE will require 100-foot by 300-foot conductor pull sites in line with each route segment. In addition, these activities will require a one-acre construction lay down area, to be located at an existing SCE facility or at a location to be determined by SCE's contractor.

Communications and Monitoring

The installation of two diverse fiber optic cables (utilizing a combination of new and existing overhead and underground routes) will be necessary for SCE's system operations and protection. The routes are each approximately 2.5 miles in length, generally utilize existing utility poles, and are depicted on Figure 2-9. Fiber installation activities will occur within an approximate 30-foot-wide corridor along the routes. At each turn in the route, SCE will require 50-foot by 100-foot fiber optic pull sites in line with each route segment. In addition, these activities will require an 8,000-square-foot construction staging, to be located at an existing SCE facility or at a location to be determined by SCE's contractor.

The proposed Project will be designed to employ a Supervisory Control and Data Acquisition (SCADA) system. The SCADA will allow remote monitoring of the Project's operation, as well

as remote operations of its critical control components. Access to the proposed Project's SCADA and line protection equipment will be accomplished with either wireless or hard-wired connections between the Project site, the proposed Project's remote monitoring and operations center, and the existing SCE Vestal Substation via the new fiber optic cable construction. In addition to SCE-owned communication facilities, other communication services will be procured from locally available service providers (e.g., the Local Exchange Carrier).

Additionally, the proposed Project will include systems for meteorological data collection (weather stations). The station's five weather sensors include (1) a pyranometer for measuring solar irradiance, (2) a thermometer to measure air temperature, (3) a barometric pressure sensor, (4) an anemometer to measure wind speed, and (5) a wind direction sensor. Data from each sensor will be collected by the station's data-logger, as well as transmitted to the proposed Project's SCADA system for monitoring and reporting purposes.

Other Project Components and Features

Site Access and Circulation

A minimum 50-foot setback is proposed from the property line to all solar modules and equipment where needed to ensure land use compatibility with adjacent land uses. Access to the Project site will either be along Avenues 12 or 24, these are existing roads which connect to State Route 65. There will not be any direct site access via State Route 65. Once inside the site, pervious roadways will provide access to the PV modules and the substation. Points of ingress/egress will maintain a minimum of a 20-foot driveway length from the edge of the adjacent road, with a width of 20 feet.

The on-site road system will utilize permeable surfaces with widths and rights-of-way of 15 and 20 feet wide, respectively. Depending on subsurface soil types, either varying depths of granular aggregate or another engineered stabilization solution will be used. The roads will be designed and installed according to geotechnical engineering recommendations. It is anticipated that any road gravel/aggregate will typically be two to four inches deep. Roads will be graded and compacted pursuant to typical construction practices necessary for service roads and to minimize the amount of gravel import and placement.

Perimeter site roads will be at least 20 feet wide and surfaced with gravel material around the solar PV facility. Perimeter roads will also serve as a fire buffer in accordance with the requirements of the Tulare County Fire Department. Additionally, gravel roads will accommodate the Project's operational and maintenance (O&M) activities and will also serve as onsite circulation for emergency vehicles. O&M roads will be constructed to accommodate passenger vehicles consistent with a light-duty utility vehicle or pickup truck.

Additional internal access roads/pathways (for periodic module washing and system maintenance) will also be included and will be unpaved dirt roads possibly planted with ground cover plant material, with pathway widths ranging between 15 to 20 feet.

Lighting, Signage, Landscaping, and Fire Suppression and Safety

Motion-sensitive directional lights will be installed to provide security and approach lighting for the substation and control-equipment enclosure or building. Manually controlled lighting will be installed for O&M activities at other Project locations, such as inverter and intermediate transformer locations. All lighting will be shielded and/or directed downward in order to minimize the potential for glare or spillover onto adjacent properties, and would meet applicable rules and code requirements for outdoor lighting. Project lighting will be in use as determined by the motion sensors, security requirements, cautious utility practices, and/or as necessary for operational activities.

Signage for the proposed Project construction and operation phases will be limited to signage necessary for identification purposes, and to comply with the health and safety code ordinances of the regulating authorities such as Occupational Safety and Health Administration (OSHA) and Cal-OSHA (California Division of Occupational Safety and Health). It's anticipated that signage will be mounted on the Project's perimeter fencing and applicable structures, or site facilities. No billboards or signs for advertisement are proposed for the proposed Project site.

No formal landscaping is proposed for the proposed Project, drought resistant plant species will be utilized as ground cover. The proposed Project will include ground cover as determined by best engineering practice, maintenance requirements, and pertinent agronomic advice. Certain proposed Project areas may remain unseeded in order to accommodate operations/maintenance considerations and to decrease fire risks during dry grassland seasons. The proposed Project's O&M staff will ensure vegetation maintenance as necessary to minimize the opportunity of noxious weeds, pests, and/or fire hazard from occurring. Occasionally the proposed Project site may employ grazing sheep to also be utilized for vegetation/fire hazard control.

The applicant will coordinate with the Tulare County Fire Department to arrange site-specific training for first responders, construction workers, and operations and maintenance staff. The training will familiarize first responders and workers with the hazards and first-response requirements for a solar generation facility, and will include recommended techniques for fire suppression on PV and electrical systems.

Combustible materials within and around the proposed Project, including vegetation, will be actively managed by O&M personnel to minimize fire risks. Vegetation management, in combination with the onsite, 20-foot-wide access roads will effectively serve to limit paths of any potential onsite fires. The applicant will coordinate with the Tulare County Fire Department during development of an Emergency Action Plan for the site.

Stormwater Protection

The maximum proposed Project footprint would be approximately 800 acres, excluding any temporary staging areas. Because of the site's generally flat nature and the mounting system's expected ability to accommodate slopes up to 20 degrees, minimal grading is anticipated during proposed Project construction. However, it is possible that land-planing and/or grading of portions of the site could be necessary in order to facilitate the final system design. The air

quality impact analysis assumes this case, and based on preliminary estimates, will analyze the impact of moving 100,000 cubic yards of site soils. All soils are expected to remain onsite.

Because construction activities will disturb greater than one acre of land, a Notice of Intent to Comply with the State Water Quality Control Board's General Permit to Discharge Storm Water Associated With Construction Activity, under the National Pollution Discharge Elimination System (NPDES) program, will be submitted. To comply, a Storm Water Pollution Prevention Plan (SWPPP) with planned Project details will be prepared, including monitoring and reporting procedures and Best Management Practices (BMPs). Pertinent BMPs will be included, and will likely include BMPs for dewatering procedures, stormwater runoff quality control measures, and concrete waste management. BMPs vary from site to site depending upon specific erosion risks, but often include a selection of the following:

- Silt fencing around the perimeter of the disturbed area to contain sediments before they can be transported off the site by runoff.
- Coverage of bare cut slopes by straw matting and/or hydroseeding, to limit erosion of cut slopes during precipitation events.
- Establishment of specific site entrance/exit paths covered in clean stone or aggregate base, to limit the amount of construction site soil tracked onto surrounding roads by construction traffic.
- Establishment of designated concrete wash-out areas, to contain and control concrete truck wash-out debris during construction.
- Construction of sedimentation basins, to allow quiescent settling of runoff before discharge into neighboring streams, limiting the amount of sediment discharge. (These are more effective with larger-grained soils. Finer grain soils don't settle well and require more aggressive removal such as the following.)
- Active Treatment Systems, where site runoff is captured in a pond and actively filtered to remove fine-grain soil particles prior to discharge to neighboring streams. This method is used only when absolutely necessary to meet discharge requirements, as it is quite costly to implement.

Following proposed Project construction, and installation of the ground cover discussed previously, stormwater is expected to be absorbed into vegetated and other pervious soils in conditions similar to pre-project conditions, with any stormwater run-off utilizing existing drainage features. The proposed Project will comply with any State, Local, or Federal permitting requirements that are, or become, pertinent to operation of a solar project.

Project Construction

It's anticipated that complete proposed Project build-out could occur over several years, or in a single year, with Project phases (e.g. multiple 10 or 20 MW phases or a single 80 MW phase)

being completed on a schedule necessary to deliver electricity pursuant to the requirements of Power Purchase Agreements (PPAs) entered into with the contracting utility or utilities. Dependent upon completion of the California Environmental Quality Act (CEQA) review process, receipt of all necessary construction permits, and satisfaction of all applicable pre-construction conditions, the Project is anticipated to commence mid-to-late 2014. Construction and commissioning of the Project's initial phase is expected to require approximately six to nine months, and will include a peak construction period lasting approximately four months. Any subsequent Project phases are anticipated to require similar timelines.

The construction elements for each of the proposed Project phases would include (1) site preparation; (2) PV system installation; and (3) installation of the inverters, substation, and interconnection facilities. Construction activities will typically occur 8 to 10 hours per day, for 5 to 6 days per week period. From time to time, the construction schedule may require longer daily schedules, additional shifts, night work, or work on Sundays. Although such an expanded schedule is not anticipated, certain unforeseen events (e.g., delays caused by rain), may require an expanded schedule in order to maintain the required project schedule. For impacts analysis, 260 days over the course of 12 months will be assumed, i.e., 5 days/week over the course of 52 weeks.

On average, and assuming multiple proposed Project phases will occur as a result of construction related delays, approximately 65 workers per day would be expected onsite during the construction phase. During the peak of construction, which is anticipated to last up to four months, up to 75 workers would be onsite each day and would commute to and from the site on a daily basis, at an average round-trip distance of 50 miles. Local labor would be utilized to the maximum extent practicable. However, in the event the entire project is built out in a single phase, assumptions for the worst case impacts analysis will assume 198 workers per day, with average round-trip distance traveled of 50 miles.

Construction Traffic and Deliveries

Construction materials for the Project will be delivered by truck, with the majority of the truck traffic occurring on designated truck routes and major streets. During construction, assuming multiple proposed Project phases, and depending upon that phase's construction phase, approximately 15 to 30 truck-trips to the site will occur each day. However, detailed input assumptions will be included in the proposed Project's worst case air impacts analysis, and assuming complete build-out in a single phase, will include 90 heavy-duty and 3 medium-duty truck-trips to the site each day. Most of the proposed Project's components will be manufactured/pre-assembled offsite, with final assemblage, mounting, and interconnection to occur onsite.

Except as listed above, because of the characteristics of the proposed Project's construction activities (e.g., limited dirt imports or exports resulting from grading, and delivery of pre-manufactured and assembled components to the site), construction of the proposed Project is not expected to cause significant increases in traffic volumes on area roads. Any local traffic congestion would be temporary.

Estimated Waste Disposal and Water Usage

Liquid (sanitary) wastes generated during proposed Project construction are expected to range from 13 to 20 gallons per worker. Sanitary wastes would be contained in portable facilities, collected at least weekly, and disposed of at an offsite disposal or treatment facility. An onsite sewage system will not be constructed to treat sanitary wastes during construction phase.

All solid construction wastes will be disposed of or recycled by qualified service providers. In order to accommodate directing of construction materials to proper end-point destinations, contractors and workers will be educated on waste sorting, appropriate recycling storage areas, and measures to reduce landfill waste production. Any hazardous wastes, in liquid or solid form, will be removed from the site by licensed hazardous personnel.

Estimated water usage during construction, especially during any grading activities, it is anticipated that up to 50,000 gallons of water will be needed on a daily basis. Water will be acquired from a local private or municipal offsite source, and would be used primarily for dust suppression control (including truck wheel washing in accordance with local air district requirements) and for soil conditioning and re-compaction prior to construction of concrete footings or pads.

Project Operation

During regular and annual operations and maintenance (O&M) activities, the number of regular onsite staff is expected to range between 0 to 10 workers on a daily basis. An operations and maintenance staff compliment of 2 to 3 persons is expected for routine facility maintenance activities. The duration of periodic maintenance activities will vary, but is expected to require, for example, up to six contracted workers for up to two weeks twice a year for module washing. Similar staffing levels may be required occasionally for other focused maintenance activities.

Although local proposed Project monitoring and control will be possible, typical monitoring and control will be performed by an offsite operator. The remote operator will respond to alerts or alarms generated by the proposed Project's monitoring equipment, and will dispatch operations, maintenance, or emergency response personnel to the site as necessary.

Operations and maintenance activities conducted regularly or from time to time will include:

- Solar module washing
- Vegetation and weed abatement
- Security monitoring and security system maintenance
- Responding to dispatch instructions by the remote operator to perform any corrective actions or maintenance items
- Regularly scheduled preventive maintenance
- Occasional corrective maintenance tasks

- Communicating with the remote operator to ensure accurate communication with the contracting utility, transmission system operators, and other entities involved in facility operations.

Facility Maintenance

Proposed Project maintenance will generally be conducted during weekday daytime hours. To the extent possible, equipment repairs will be conducted in the early morning or evening hours, when the proposed Project's potential for energy production is at a minimum. To a larger degree, maintenance activities will be scheduled to occur during times of the day, week, or year that are less important to the contracting utility.

Proposed Project maintenance will typically include module repairs; module washing; maintenance of transformers, inverters, and other electrical equipment as needed; and road or fence repairs. A checklist of preventive maintenance tasks will be completed at least monthly.

Proposed Project outputs and performance will be monitored and compared to predicted outputs in order to identify equipment failure or abnormalities. Indicators to be monitored and analyzed to confirm proper system performance include actual electric production as metered, equipment-reported indications or alarms, and real-time weather and solar conditions. Close attention to actual production vs. predicted production will allow system maintenance to be prescribed for optimal production generation.

Prior to site occupancy, a site pest management plan (Plan) would be prepared to provide Tulare County with the information needed to evaluate vegetation and insect management activities associated with proposed Project construction, and operations and maintenance activities. The Plan will ultimately provide operation and maintenance staff with information needed to implement vegetation management activities for the project over the life span of the proposed Project.

An Integrated Pest Management Plan (IPM) will be developed to monitor and control agricultural pests and noxious weeds, while aiming to minimize the use of chemicals in managing the property. In addition to consultation with the Tulare County Agricultural Commissioner, Environmental Protection & Pest Management Division, a weed and pest control consultant will be contracted to develop the IPM plan and monitor its implementation.

Techniques and approaches that are expected to be utilized in developing the final IPM plan are:

1. Inventory and monitor plants and animals in the area, which are potential pests in order to detect potential issues before populations build to levels that could create economic injury.
2. Develop strategies and control methods that are needed to keep the population of potential pest below critical threshold levels.
3. Utilize natural predators and ecosystem approaches to keep pest populations under control and below economic injury thresholds.
4. Use selective herbicides and pesticides when necessary to bring pest populations into balance.

Best management practices to be considered, and which may be incorporated as control strategies for various types of pests, include the following:

Noxious weeds:

- Maintain a ground cover of perennial grasses and herbs to reduce the amount of exposed bare soil that is attractive to invasive plant species.
- Utilize mechanical methods (mowing or grazing to keep weeds low without discing or tilling.)
- Utilize selective herbicides to target invasive noxious weeds.
- Monitor and manually remove noxious weeds before they become established.

Vertebrate Pests:

- Encourage natural predation by raptors by providing nesting and roosting habitat (ie: barn owl boxes, and roosting poles.
- Monitor and selectively place rodenticide bait stations to prevent the establishment of large populations particularly along perimeter roads and raise banks.
- Design solar arrays to allow occasional flooding, particularly during periods when large raptor populations are present.

Invertebrate Pests:

- Remove weeds and vegetation that can serve as a host to invertebrate pests.
- Control ant populations with boric acid bait stations around the perimeter of the facility.
- Monitor pests and participate in CDFA/USDA pest monitoring programs to detect target pests.
- Selectively apply insecticides and acaricides to control pest populations before economic injury thresholds are reached, using targeted, narrow-range materials whenever possible.

For purposes of analyzing the most conservative operational impacts for air and traffic, assumptions include: (i) one (1) heavy-duty water truck 80 days/year traveling 2.5 miles offsite per day, and 48 miles onsite per day, (ii) three (3) operations and maintenance personnel working 247 days per year traveling 50 round-trip miles per day and 5 miles onsite per day, (iii) one (1) security worker traveling 50 round-trip miles 10 days/year, and (iv) one (1) delivery truck 48 days/year traveling 50 round-trip miles.

Water Usage

Primary water usage by the proposed Project will be for solar module washing. Water use will be used to maintain optimal performance of the solar modules, the periodicity for washing the solar modules is typically recommended by manufacturers at two times per year, or as dictated by site-specific soiling conditions. Module washing will require water, but will not use a chemical cleaner. Minor amounts of water may also be used for any future restroom and break-room facilities. Preliminary indications are that a small (approx. 100-150 gpm) well will be installed on-site to supply the water. Depending on well-water quality, and quantity necessary

for module washing, it could be determined that higher quality water could be economically trucked to site as needed.

Module washing is expected to require approximately 30,000 gallons of water for each 20-MW section of the proposed Project. For example, assuming a total buildout of 40 MW, 60,000 gallons per wash would be required. Assuming two washes per year, total water use per year, in this example, would be approximately 120,000 gallons, or 0.37 acre-feet per year. As such, an 80 MW facility would require an estimated 240,000 gallons per year, equivalent to an annual approximate of 0.74 acre-feet per year.

Security

The proposed Project is proposed to be fenced along all perimeters of the Project boundary with an 8-foot-high, galvanized chain-link fence, which may include the additional top feature of three to six strands of barbed wire. Fence posts will be either drilled and grouted or driven pneumatically. Due to State Route 65's relative elevation with the adjacent Project, nearly all photovoltaic panels will be located below street-view level along State Route 65, or will be at a slightly higher grade than street view levels. It is anticipated, that although the site appearance would be visible to traffic traveling along State Route 65, the impact will not be significant or obstructive. Vehicle access gates will be installed as necessary, with the gates to remain locked when not in use. Security or operations personnel will be available for dispatch to the Project site 24 hours per day, 7 days a week.

SITE RECLAMATION

The life of the Project is proposed to be up to 25 years, with the option to extend additional years. At the end of the Project life, the applicant or Project management group will remove all Project facilities from the site. The disassembly and extraction of the solar facility is expected to be completed during a three to four month timeframe. The reclamation process will include the disassembly and removal, or demolition (if applicable), of all solar panels, inverters, transformers, miscellaneous substation equipment, mounting structures, control building, fencing, concrete foundations and electrical cables from the facility site. The reclamation activities will be conducted following expiration of all power purchase agreements, and once a final determination is made that the facility is no longer needed to serve the public good.

It is expected that all electrical equipment will be disassembled and removed for re-use or recycling. During the life of the facility no hazardous materials are expected to be necessary to clean, treat or remove harmful pollutants. It is unlikely that the removal of hazardous chemicals/materials will be a significant component of the Project site reclamation process. Any hazardous chemicals that are brought onto the facility site shall be handled in compliance with all Federal, State, and County regulations and standards. All necessary documentation (such as a Hazardous Materials Business Plan or a Spill Prevention Control and Countermeasures Plan) shall be completed and submitted to the County in the required timeframe and maintained at the facility site in accordance with all regulations.

Unless landowner finds Project structures or materials to be useful and desirable for a subsequent and allowed use, all above-grade structures and materials will be removed at the conclusion of

the Project's operation. This shall include all solar generation operating equipment (panels, inverters, transformers, etc.), the control building, fences and any above-ground concrete foundations. The facility site shall be largely restored to its pre-Project site condition. Corrective grading for any major divots created by the removal of solar generation equipment or materials shall be completed to restore the surface to a comparable pre-project useable condition.

A small number of below-grade foundations are proposed for several on-site facilities. The scope of below-grade foundations will likely include support for the inverters, transformer and substation equipment. Assuming a subsequent allowable use of the foundations is not identified at the conclusion of the Project's operation, all below-grade concrete foundations will be demolished, unearthed and removed from the Project site. Appropriate civil construction work (such as back-filling) will follow the extraction of the below-grade concrete foundations in order to achieve Project site reclamation of the agricultural land.

It is likely that underground electrical cables will be installed to collect the power produced from an array of solar panels and route that power to a D.C. to A.C. inverter station. As determined by final engineering design, the underground cables will be installed in either PVC or rigid steel conduits and/or direct-bury as allowed by National Electric Code. The reclamation process shall include the removal of all underground conduits and cables, with each material to be sorted and routed for recycling. The anticipated approach would be to pull all conductors from conduits initially, and then utilize a backhoe, ripping chisel, or other device to remove the conduits from underground. These activities will be followed by back-filling all exposed trenches in order to achieve reclamation of the agricultural land. The Project site is relatively level and flat, with minimal grading expected for removal of facilities and underground materials.

Future crop selection will likely be limited to products recently harvested, such as dry land barley (or wheat). Alternatively, given the economic and growing conditions at the time of agricultural reclamation, the ground cover utilized during the life of the facility may be left in place if determined to be the best management practice at that point in time.

PROPOSED PROJECT OBJECTIVES

Objective 1: Operate a photovoltaic solar generation facility capable of producing up to 80 MW of renewable solar power

A primary objective of the proposed Project is to construct and operate a solar photovoltaic (PV) generating facility so that up to 80 MW of the energy produced by the proposed Project could be sold to a public utility company, a municipality, or a CAISO market participant, and ultimately distributed for public consumption.

Objective 2: Implementation of AB 32

AB 32 has defined plans and programs for year 2020, with the vision of Year 2050 that sets a goal to achieve an 80% reduction of greenhouse gas (GHG) compared to the 1990 base year. The proposed solar energy generating facility is consistent with AB 32 measures of Year 2020 and assists in implementing the objectives for the Year 2050 goal. The proposed Project will also implement California's Renewable Portfolio Standard's, one of the most ambitious renewable

energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020.

Objective 3: General Plan Update 2030 – Climate Action Plan

The proposed Project was developed to support and implement the efforts made by the County of Tulare to address climate change through its General Plan and Climate Action Plan. The proposed Project is intended to increase the amount of renewable energy available to the existing electrical grid. In addition, the facility will assist in meeting state greenhouse gas emissions reductions by providing an alternative source of renewable energy to reduce Tulare County's use of fossil fuel consumption in order to produce electricity.

Objective 4: Minimize environmental impacts by locating in a suitable rural setting near existing power grid connections lines.

Photovoltaic facilities or Projects of this magnitude and scale are usually constrained by geographic locations. Furthermore, potential Project sites may be located a cost-considerable or physical distance from suitable electric grid connections. Based on these factors, site location will influence construction costs. The proposed Project location is identified as a suitable site based upon its proximity to an existing grid substation (SCE's Vestal Substation) located near the intersection of Avenue 24 and Richgrove Drive in Tulare County.

Objective 5: Minimize environmental impacts in the community by locating the facility in a remote location.

For large-scale photovoltaic facilities the most efficient location for capturing solar radiation is on level land. Impacts associated with this facility's construction phase may occur in periods ranging from a year or up to possibly three years. The objective of this Project is to locate the photovoltaic facility in a remote area away from urban population centers and sensitive receptor uses, such as residences, hospitals, and schools. In addition, a Project of this magnitude may not be perceived as an appropriate or compatible land use on or near a state or national park land and monuments, historic or cultural resources, designated Wilderness Areas, wetland, and riparian areas, or adopted Habitat Conservation Plans, Natural Community Conservation Plans, and other approved local, regional, or state habitat conservation plan areas. The proposed Project has been selected because it will result in less than significant adverse impacts to the existing environment than other potential locations.

Aesthetics

Chapter 3.1

SUMMARY OF FINDINGS

Impacts to aesthetics as a result of the proposed Project are determined to be less than significant providing mitigation measures recommended below are adopted as conditions of approval of the Special Use Permit. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis as follows.

INTRODUCTION

CEQA Requirements for Evaluation of Aesthetics

CEQA requires that significant impacts on the environment be identified and, where possible, measures be added to minimize or eliminate impacts (CEQA Guidelines Section 15325). A “significant effect on the environment” is defined as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project...” (CEQA Guidelines Section 15382). With respect to aesthetics, potentially significant CEQA impacts include visual impacts to scenic highways, the visual character of the site, and impacts from lighting.

This section describes the existing visual environment in the proposed Project vicinity using accepted methodology to evaluate aesthetic/visual landscape quality and light/glare. Aesthetic considerations tend to be subjective. The methodologies used to evaluate aesthetic impacts to visual character are qualitative in nature, and are based on photographic documentation of the site and surrounding area¹.

The proposed Project site is located in the agricultural (Valley) portion of Tulare County. The Environmental Setting section describes scenic and aesthetic resources in the region, with special emphasis on the proposed Project site and vicinity. The Regulatory setting provides a description of applicable State and local regulatory policies. A description of the potential impacts of the proposed Project is also provided and includes the identification of feasible mitigation to avoid or lessen the impacts.

The analyses of the existing visual setting and potential visual impacts resulting from the proposed Project are based primarily on information provided by the Project applicant.

¹ State of California, Governor’s Office of Planning and Research, “Thresholds of Significance: Criteria for Defining Environmental Significance,” *CEQA Technical Advice Series* <http://ceres.ca.gov/ceqa/more/tas/Threshold.html>

DEFINITIONS

Compatible Development:

“This includes new public or private development, such as buildings and infrastructure, which is harmonious with natural features and historic structures.”²

County Scenic Routes:

“These are highways and roads that have been identified by the County as important to tourism and the rural travel experience in valley, foothill, and mountain landscapes.”³

Natural Landscapes:

“An expanse of naturally-formed scenery that contribute to the visual beauty of Tulare County.”⁴

Scenic landscapes:

“Landscapes that include agricultural lands, woodlands, forestlands, watercourses, mountains, meadows, structures, communities, and other types of scenery that contributes to the visual beauty of Tulare County.”⁵

Viewshed:

“An area of land, water, or other environmental features that is visible from a fixed vantage point. Viewsheds tend to be areas of particular scenic or historic value that are deemed worthy of preservation against development or other change. The preservation of viewsheds is typically the goal in the designation of open space areas, green belts, and urban separators.”⁶

Working Landscapes:

“These are landscapes shaped by human activities that produce economic commodities such as agricultural lands, ranch lands, and timber lands.

² Tulare County General Plan 2030 Update, Recirculated DEIR, page 7-1

³ Ibid.

⁴ Ibid.

⁵ Ibid., page 7-2

⁶ Ibid.

They may also include picturesque commercial districts in communities, crops, orchards, agricultural structures, stands of timber, and canals.”⁷

ABBREVIATIONS

(APN)	Ambassador Parcel Number
(CEQA)	California Environmental Quality Act
(Caltrans)	California Scenic Highway Program
(CEQ)	Council of Environmental Quality
(EIR)	Environmental Impact Report
(AE-40)	Exclusive Agriculture, 40 Acre Minimum
(NEPA)	National Environmental Policy Act
(NGVD)	National Geodetic Vertical Datum
(O&M)	Operation & Maintenance
(PV)	Photovoltaic
(Valley)	San Joaquin Valley
(SR)	State Route
(Commission)	State of California Energy Commission
(GPR)	Tulare County General Plan Update 2030 Part 1: Goals and Policies Report

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are thresholds of significance:

- Impact scenic vista
- Impact scenic highway
- Impact visual quality
- Create glare or impact nighttime views

ENVIRONMENTAL SETTING

Visual Character of the Region

“Tulare County is located in a predominately agricultural region of central California. The terrain in the County varies. The western portion of the County includes a portion of the San Joaquin Valley (Valley), and is generally flat, with large agricultural areas with generally compact towns interspersed. In the eastern portion of the County are foothills and the Sierra Nevada mountain range. The Project site is located on the southern central area of the Valley floor, which is fertile and has been intensively cultivated for many decades. Agriculture and related industries such as agricultural packing and shipping operations and small and medium sized manufacturing plants

⁷ Ibid.

make up the economic base of the Valley region. Many communities are small and rural, surrounded by agricultural uses such as row crops, orchards, and dairies. From several locations on major roads and highways throughout the County, electric towers, substations and telephone poles are noticeable. Mature trees, residential, commercial, and industrial development, utility structures, and other vertical forms are highly visible in the general region because of the flat terrain. Where such vertical elements are absent, horizon views are expansive. Most structures are relatively small; usually one story in height, though occasionally two story structures can be seen at commercial-scale or industrial agricultural complexes. The County provides a wide range of views from both mobile and stationary locations...”⁸

The proposed Project site is comprised of historically disturbed agricultural land in an unincorporated area of south central Tulare County. The proposed Project site is located along State Route 65 approximately four miles south of the Census Designated Place of Ducor. The site has an elevation of approximately 548 feet as identified by the National Geodetic Vertical Datum (NGVD)⁹. The site topography ranges from relatively flat surface to gently sloped. Only one of the proposed Project’s seven parcels, APN 339-140-01, contains site improvements, such as a farm house, shop, storage building, and related servicing utilities. Rural unpaved roads run adjacent to southern, western and eastern portions of the proposed Project Site. A paved highway, Porterville Highway also known as State Route 65 bi-sects the site at the site’s east-west mid-point, an aggregate-paved county road (Avenue 24) runs adjacent to the northern portion of the Project site, and an unpaved road (Avenue 12) runs adjacent to the majority of the site’s southern boundary. The proposed Project site has been utilized for dry farming operations of crops such as wheat and barley which historically has resulted in suboptimal and economically unproductive.]. Land uses in the proposed Project’s vicinity are predominantly agricultural, with scattered rural residences less than one mile radius of the site. SCE’s Vestal Substation lies to the northwest along Richgrove Drive (County Route J35) and the alignment of Avenue 28, west of the Project site. The White River flows in a westward direction approximately 2.4 miles north of the proposed Project site. The site is bordered on all sides by primarily undeveloped lands and agricultural fields. Surrounding agricultural lands consist of orchards, row crops, and other farmed properties.

Figures 3.1-1.0 through 3.1-1.39 illustrate various on-site locations that were photographed during site visits. Each photograph is identified on the aerial photo with an indexed arrow illustrating each picture’s general vantage point. For example, photographs 1 through 3 were taken from the north area of the Project site looking south, southeast, and east into the proposed Project site. Photograph 4, also along the north boundary and a quarter mile further east, looks south into the proposed Project site. The aerial map used in Figure 3.1-1.0, is an illustration to depict the vantage points of photographs taken for this section.

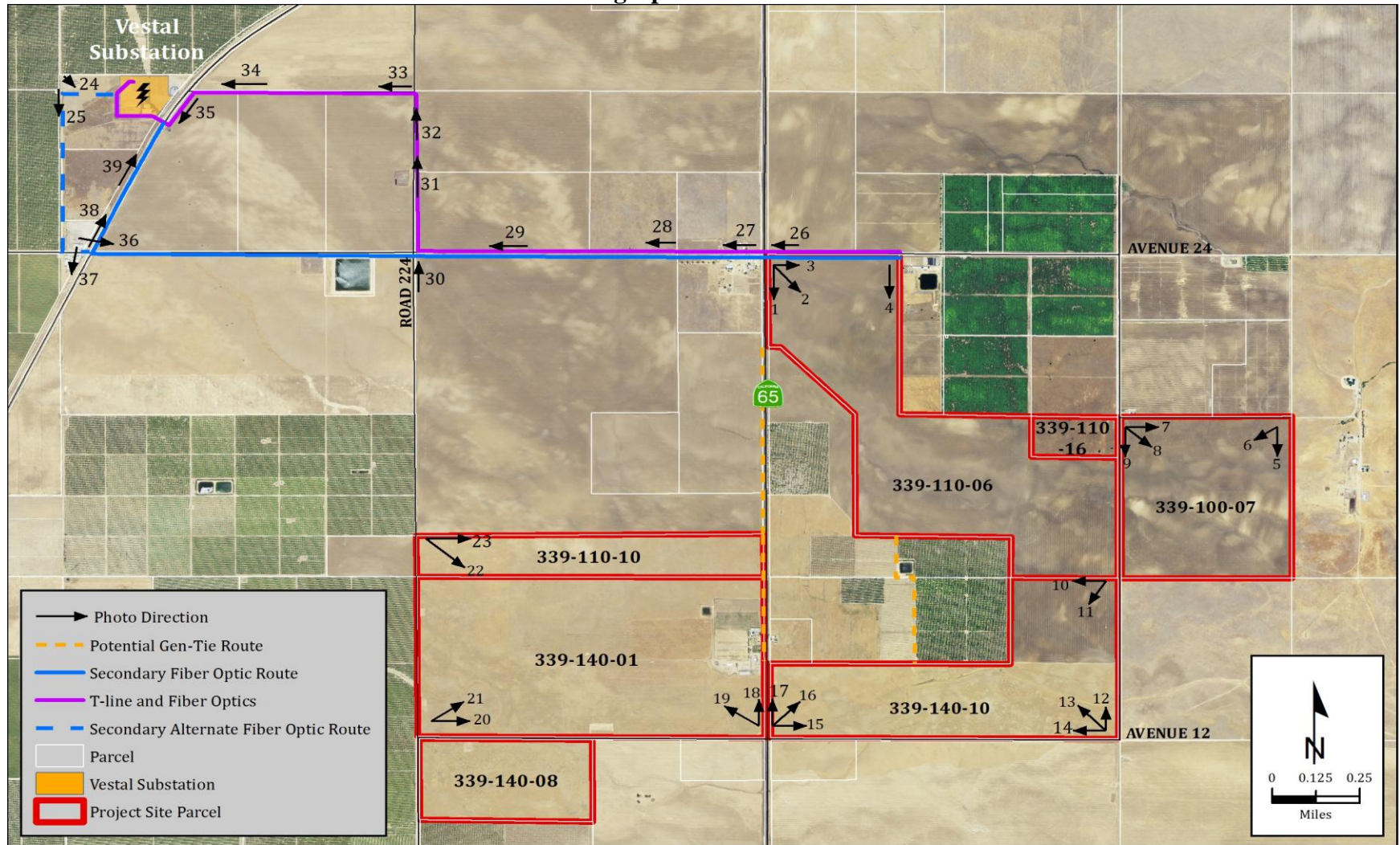
Figures 3.2-1.0 through 3.2-1.39 illustrate various off-site locations that were photographed during site visits. Each photograph is identified on the aerial photo with an indexed arrow illustrating each picture’s general vantage point. For example, Photograph 1 was taken from the

⁸ Tulare County General Plan 2030 Update, Recirculated DEIR, February 2010, page 3.1-11

⁹ National Geodetic Survey, <http://www.ngs.noaa.gov/datums/vertical/VerticalDatums.shtml>

north area of the Project site looking west along SCE's subtransmission line route. The aerial map used in Figure 3.2-1.0, is an illustration to depict the vantage points of photographs taken for this section.

Figure 3.1-1.0
Photograph Location Index



8/28/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINALREVISED\photo_directions_expanded.mxd

Imagery: USDA NAIP 2012

Figure 3.1-1.1: Northwest corner of APN 339-110-006, looking south onto the Project site.



Figure 3.1-1.2: View from the northwestern corner of APN 339-110-006, looking southeast onto the Project site.



Figure 3.1-1.3: View from the northwestern corner of APN 339-110-006, looking east on the Project Site.



Figure 3.1-1.4: View from the northeastern corner of APN 339-110-006, looking south onto the Project site.



Figure 3.1-1.5: View from the northeast corner of APN 339-100-007, looking south onto the Project site.



Figure 3.1-1.6: View from the northeast corner of APN 339-100-007, looking southwest onto the Project site.



Figure 3.1-1.7: View from the northwest corner of APN 339-100-007, looking east onto the Project site.



Figure 3.1-1.8: View from the northwest corner of APN 339-100-007, looking southeast onto the Project site.



Figure 3.1-1.9: View from the northwest corner of APN 339-100-007, looking south onto the Project site.



Figure 3.1-1.10: View from the northeast corner of APN 339-140-010, looking west onto the Project site.



Figure 3.1-1.11: View from the northeast corner of APN 339-140-010, looking southwest onto the Project site.



Figure 3.1-1.12: View from the southeast corner of APN 339-140-010, looking north onto the Project site.



Figure 3.1-1.13: View from the southeast corner of APN 339-140-010, looking northwest onto the Project site.



Figure 3.1-1.14: View from the southeast corner of APN 339-140-010, looking west onto the Project site.



Figure 3.1-1.15: View from the southwest corner of APN 339-140-010, looking east onto the Project site.



Figure 3.1-1.16: View from the southwest corner of APN 339-140-010, looking northeast onto the Project site.



Figure 3.1-1.17: View from the southwest corner of APN 339-140-010, looking north onto the Project site.



Figure 3.1-1.18: View from the southeast corner of APN 339-140-001, looking north onto the Project site.



Figure 3.1-1.19: View from the southeast corner of APN 339-140-001, looking northwest onto the Project site.



Figure 3.1-1.20: View from the southwest corner of APN 339-140-001, looking east onto the Project site.



Figure 3.1-1.21: View from the southwest corner of APN 339-140-001, looking northeast onto the Project site.



Figure 3.1-1.22: View from the northwest corner of APN 339-110-010, looking southeast onto the Project site.



Figure 3.1-1.23: View from the northwest corner of APN 339-110-010, looking east onto the Project site.



Figure 3.1-1.24: View looking southeast towards Vestal Substation from northwest of the substation



Figure 3.1-1.25: View looking south near the Vestal Substation; west of the substation



Figure 3.1-1.26: View looking west along Avenue 24; east of SR 65, Tulare County



Figure 3.1-1.27: View looking west along an unpaved portion of Avenue 24; west of SR 65, Tulare County



Figure 3.1-1.28: View looking west along an unpaved portion of Avenue 24; west of SR 65, Tulare County



Figure 3.1-1.29: View looking west along an unpaved portion of Avenue 24; west of SR 65, Tulare County



Figure 3.1-1.30: View looking north along Road 224 near Avenue 24, Tulare County



Figure 3.1-1.31: View looking north along Road 224 near Avenue 24, Tulare County



Figure 3.1-1.32: View looking north along Road 224 near Avenue 24, Tulare County



Figure 3.1-1.33: View looking west towards Vestal Substation from unpaved road, Tulare County



Figure 3.1-1.34: View looking west towards Vestal Substation from unpaved road, Tulare County



Figure 3.1-1.35: View looking southwest along Richgrove Drive near Vestal Substation, Tulare County



Figure 3.1-1.36: View looking east on Avenue 24 near Richgrove Drive, Tulare County



Figure 3.1-1.37: View looking south along Richgrove Drive at Avenue 24, Tulare County



Figure 3.1-1.38: View looking northeast along Richgrove Drive near Avenue 24, Tulare County



Figure 3.1-1.39: View looking northeast along Richgrove Drive near Avenue 24, Tulare County



REGULATORY SETTING

The following environmental regulatory settings were summarized, in part, from information contained in the Tulare County General Plan Update 2030 Recirculated Draft EIR (February 2010).

State Regulations

CEQA

The *CEQA Guidelines* Section 15382 defines "significant effect on the environment" as: "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

Title 24 Outdoor Lighting Standards

Title 24 Outdoor Lighting Standards were adopted by the State of California Energy Commission (Commission) (Title 24, Parts 1 and 6, Building Energy Efficiency Standards (Standards) on April 23, 2008 and went into effect on January 1, 2010. The changes included new requirements for outdoor lighting, which vary according to the "Lighting Zone" district in which the equipment is located. A Light Zone 2 designation is by default for all "rural areas" as defined by the U.S. Census Bureau; these are generally locations of low lighting ambient illumination¹⁰. Approved existing outdoor lighting systems in rural areas prior to the adoption of the 2008 Standards update, are not required to meet the Building Energy Efficiency Standards for lighting allowances in the Lighting Zone 2 district.

Scenic Highway Program

The California Scenic Highway Program was established by the state Legislature in 1963 for the purpose of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. The state laws governing the scenic highways program are found in The Streets and Highways Code Sections 260-263.

In Tulare County, portions of State Routes 190, 198, and 180 are eligible for state scenic highway designation; however, these highway corridors have not been officially designated as State Scenic Highways.^{11,12}

County Regulations

¹⁰ Title 24, 2008 Nonresidential Compliance Manual, page 6-20, http://www.energy.ca.gov/title24/2008standards/nonresidential_manual.html

¹¹ Tulare County General Plan 2030 Update: Goals and Policies Report Part 1 Figure 7-1, page 7-5

¹² Caltrans, California Scenic Highway Program: "Frequently Asked Questions," http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

The *Tulare County General Plan Update 2030 Part 1: Goals and Policies Report* (GPR) (August 2012) includes a number of goals and policies relating to scenic protection of County resources.

The Goals and Policies Report Framework Concept # 3 addresses Scenic Landscapes:

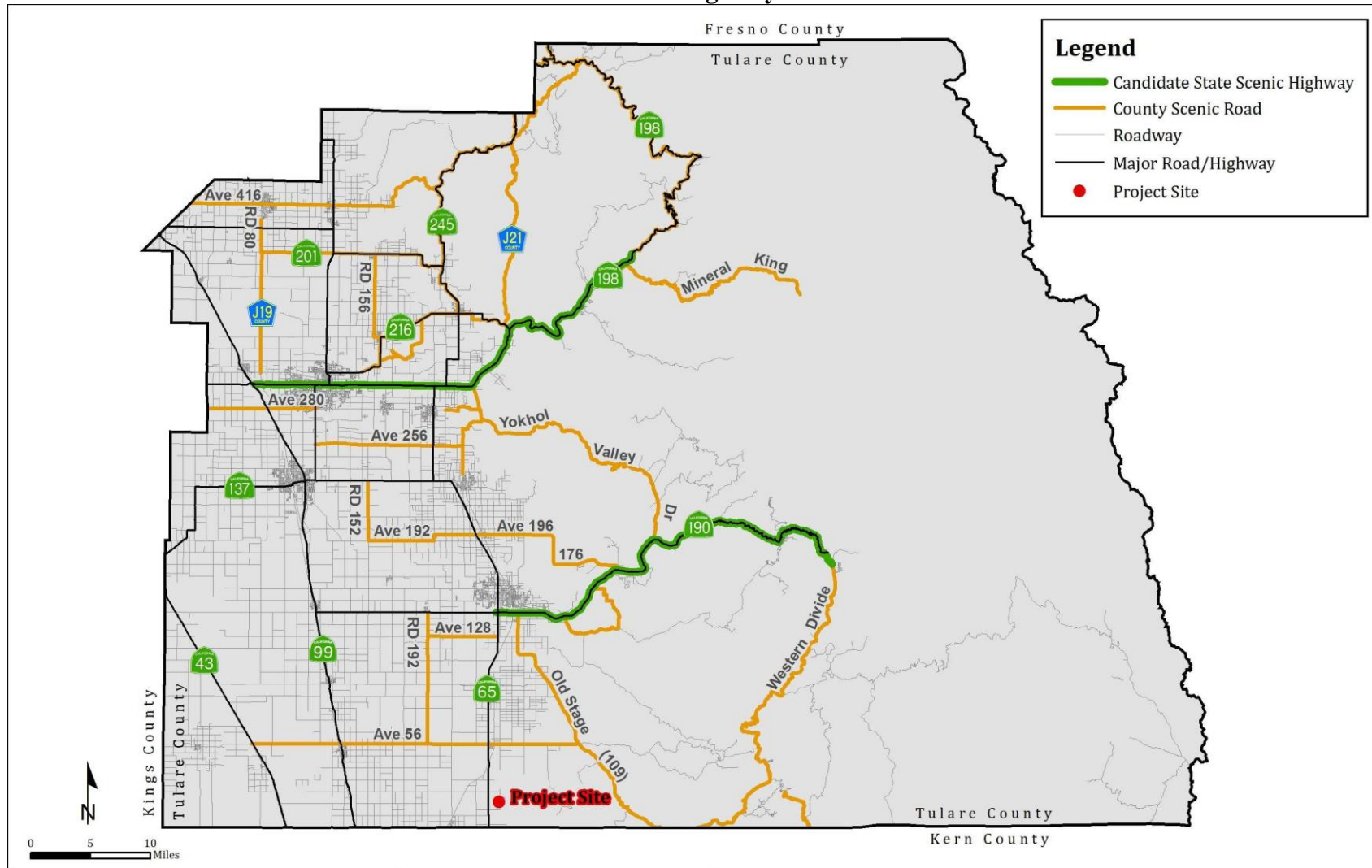
“The scenic landscapes in Tulare County will continue to be one of the County’s most visible assets. The Tulare County General Plan emphasizes the enhancement and preservation of these resources as critical to the future of the County. The County will continue to assess the recreational, tourism, quality of life, and economic benefits that scenic landscapes provide and implement programs that preserve and use this resource to the fullest extent.”¹³

Scenic Roadways

“Tulare County’s Scenic Highways Element (August 2012) of the existing General Plan identifies State designated scenic highways and County recognized designated eligible highways. There are three highway segments designated as eligible by the State. These include State Route 198 from Visalia to Three Rivers, State Route 190 from Porterville to Ponderosa, and State Route 180 extending through Federal land in the northern portion of Tulare County. State Route 198 closely follows around Lake Kaweah and the Kaweah River, while State Route 190 follows around Lake Success and the Tule River. Although State Route 180 is predominately located in Fresno County, a small segment of the SR180 crosses a brief section along the northeast area of Tulare County. Both State Routes 190 and 198, Eligible Scenic Highways travel through agricultural areas of the Valley floor to the foothills and the Sierra Nevada Range. According to Tulare County General Plan Policy SL-2.1, the County shall protect views of natural and working landscapes along the County’s highways and roads by maintaining a designated system of County scenic routes and State scenic highways.

¹³ Tulare County General Plan 2030 Update: Goals and Policies Report, page A-2

**Figure 3.1-1
Scenic Highways**



2/28/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINAL\scenic_roads.mxd

General Plan 2030 Update Policies

The General Plan 2030 Update provides specific goals for scenic protection of Natural and Working Landscapes (Goal SL-1); Scenic Roads and Highways (Goal SL-2); Community design (Goal SL-3); and design of infrastructure (Goal SL-4). Each of the stated goals has several associated policies designed to protect scenic landscapes, including working landscapes such as agricultural landscapes. Key policies applicable to the proposed Project include SL-1.1 and SL-1.2, designed to protect scenic natural and working landscapes, including agricultural landscapes.¹⁴

SL-1.1 Natural Landscapes

During review of discretionary approvals, including parcel and subdivision maps, the County shall, as appropriate, require new development to not significantly impact or block views of Tulare County's natural landscapes. To this end, the County may require new development to:

1. Be sited to minimize obstruction of views from public lands and rights-of- ways,
2. Be designed to reduce visual prominence by keeping development below ridgelines, using regionally familiar architectural forms, materials, and colors that blend structures into the landscape,
3. Screen parking areas from view,
4. Include landscaping that screens the development,
5. Limit the impact of new roadways and grading on natural settings, and
6. Include signage that is compatible and in character with the location and building design.

SL-1.2 Working Landscapes

The County shall require that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds and to be designed to reflect unique relationships with the landscape by:

1. Referencing traditional agricultural building forms and materials,
2. Screening and breaking up parking and paving with landscaping, and
3. Minimizing light pollution and bright signage.

LU-7.14 Contextual and Compatible Design

The County shall ensure that new development respects Tulare County's heritage by requiring that development respond to its context, be compatible with the traditions and character of each

¹⁴ Tulare County General Plan 2030 Update, Goals and Policies Report, Chapter 7

community, and develop in an orderly fashion which is compatible with the scale of surrounding structures.

LU-7.6 Screening

The County shall require landscaping to adequately screen new industrial uses to minimize visual impacts.

SL-2.1 Designated Scenic Routes and Highways

The County shall protect views of natural and working landscapes along the County's highways and roads by maintaining a designated system of County scenic routes and State scenic highways by:

1. Requiring development within existing eligible State scenic highway corridors to adhere to land use and design standards and guidelines required by the State Scenic Highway Program,
2. Supporting and encouraging citizen initiatives working for formal designation of eligible segments of State Highway 198 and State Highway 190 as State scenic highways,
3. Formalizing a system of County scenic routes throughout the County (see Figure 3.1-1), and
4. Requiring development located within County scenic route corridors to adhere to local design guidelines and standards.

LU-7.19 Minimize Lighting Impacts

The County shall ensure that lighting in residential areas and along County roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas unless required for public safety.

Tulare County Zoning Ordinance

Fencing requirements Zoning Ordinance

The Tulare Solar Center Project is zoned AE-40 (Exclusive Agriculture, 40 acre minimum). The relevant fencing requirements from the zoning ordinance are as follows:

AE-40 Zone, Section 9.7 Tulare County Zoning Ordinance:

F. Fences, walls and hedges shall be permitted. However, no solid fence, wall or hedge shall exceed three (3) feet in height within the area contiguous to two (2) intersecting streets which is described as follows: that area on the street side of a diagonal line connecting points, measured from the intersection corner, fifty (50) feet on a minor street side of the property and seventy (70) feet on a major street side of the property.

Tulare County Zoning Ordinance Section 15 p. 26 "Exceptions" C.2.m. and C.2.n:

C.2.m. Fences, hedges, landscape architectural features or guard railings for safety protection around depressed ramps, not more than three and one-half (3-1/2) feet in height, may be located in any front, side or rear yard.

C.2.n. A fence or wall not more than six (6) feet in height, or a hedge maintained so as not to exceed six (6) feet in height may be located along the side or rear lot lines, provided such fence, wall or hedge does not extend into the required front yard nor into the side yard required along the side street on a corner lot, which in this case shall also include that portion of the rear yard abutting the intersecting street wherein accessory buildings are prohibited...”

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE’s electrical system.

IMPACT EVALUATION

Will the proposed Project:

a) Have a substantial adverse effect on a scenic vista?

Project Impact Analysis:

Less than Significant

The proposed Project site is located on the San Joaquin Valley floor in an unincorporated area of southwestern County of Tulare, California. Rural agricultural land is the predominant open space landscape throughout the unincorporated portions of the County. Rural Residential units are generally located along State Route (SR) 65, and less than a half mile north of the Highway 65 and Avenue 12 intersection. In addition, four rural residences are situated along Avenue 24 to the west, north-west, and east of the proposed Project site.

The proposed Project features will include Photovoltaic (PV) modules with a maximum height of 15 feet above ground, photovoltaic panels located approximately 50 feet from frontage roads, an eight foot perimeter fencing with access gates, substations, an O&M building, and subtransmission utility poles. The O&M Building, switchyard/substation(s) and varying portions of the Project will be visible at street view level from offsite. Furthermore, the analysis of the proposed Project has assumed the use of (i) up to 40 new utility poles (off-site) to upgrade the existing SCE subtransmission line and to install overhead fiber-optic, communications circuits, (ii) up to an additional 40 utility poles on-site and/or on adjacent property for transmission of the generated electricity to the substation(s) and switchyard, and (iii) 6 to 8 new utility poles (on-site) to connect a new SCE switchyard to SCE's existing subtransmission system. The analysis includes the impacts of installing all anticipated utility poles (on-site, off-site, and adjacent to site). Pole placement within the Project boundary will be determined by final design, with additional off-site pole-line routes analyzed as seen in Figure 2.9. Since existing power poles are predominant feature along the existing subtransmission line route, and as well are generally present in areas of the Project site, the addition of new power poles will blend in with the existing regional electrical network and not substantially impact views along the roadways within and adjacent to the Project site.

Rural agricultural land is the predominant landscape in Tulare County; however, there are no **designated** scenic resources on the Project site or within the Project vicinity. The Project site will experience physical change which will affect existing vistas on the Project site and its general vicinity. Currently, on clear days there is a view of foothills and the Sierra Nevada Mountains which can be viewed east of the Project.

The proposed Project's location, which is adjacent to Porterville Highway/SR 65, will be affected by the stretch of State Route 65 which passes through the Project site; specifically, the Project may potentially create interrupted frontage along SR65 for approximately 1.47 linear miles. Traveling south on SR 65 there will be varying views of the solar panels along the east side frontage, as depicted in Figure 3.1-2. Adjacent east-west streets such as Avenues 12, 16 and 24, will experience change to the existing physical vistas as a result of the Project (see Figure 3.1-2).

As a part of the proposed Project, a 50-foot setback from the property line to the solar panels will be implemented to lessen visual impacts. Due to the civil engineering feature of State Route 65, i.e. that cuts and fills of rolling topography were made to maintain a more level course of travel through rolling hills and valleys, nearly all the Project's photovoltaic panels will be located below street-view level along State Route 65, or will be at a slightly higher grade than street view levels. New utility poles and transmission line connections will blend in with the existing regional electrical network. It's anticipated that a minimal site appearance would be visible to traffic traveling along State Route 65. Additionally, an 8-foot-high chain-link fence will be installed for on-site facility security with vehicle access gates along Avenues 12 or 24. No direct site access is proposed along State Route 65. Given that there are no designated scenic resources within the Project vicinity that would be affected by the Project and due to the low heights of the proposed Project features,

implementation of the proposed Project will not adversely affect any scenic vistas. The impact would be less than significant.

Cumulative Impact Analysis: *Less than Significant*

The geographic area of this cumulative analysis is the San Joaquin Valley portion of Tulare County.

The proposed Project will be required to comply with all requirements of the Tulare County General Plan 2030 Update. Additionally, Project site design components such as the 50-foot setback from the property line to the solar panels will be implemented to lessen visual impacts. Due to the civil engineering feature of State Route 65, i.e. that cuts and fills of rolling topography were made to maintain a more level course of travel through rolling hills and valleys, nearly all photovoltaic panels will be located below street-view level along State Route 65, or will be at a slightly higher grade than street view levels. Utility poles and transmission lines will blend in with the regional electrical network. Furthermore, a 8-foot-high chain-link fence will be installed for on-site facility security with vehicle access gates along Avenues 12 or 24. Given that there are no designated scenic resources within the Project vicinity that would be affected by the Project. The proposed site's orientation and design would not adversely affect any scenic vistas. The proposed Project would have a less than significant impact to the existing visual character and quality of the site and its surroundings as a result of Project implementation. As such, any cumulative impacts are considered less than significant.

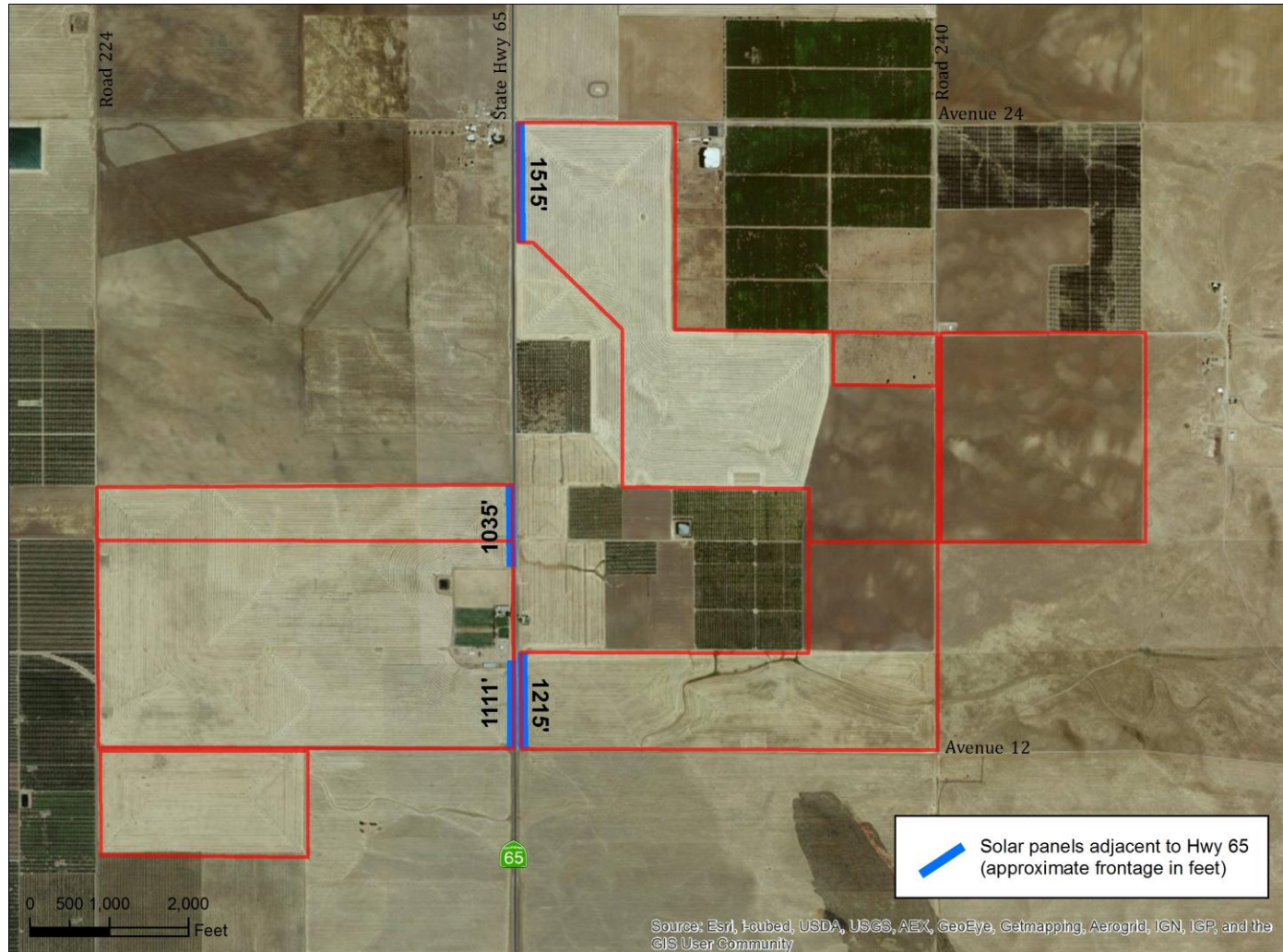
Mitigation Measures:

None Required.

Conclusion: *Less than Significant*

As noted above, any impacts resulting from the proposed Project will be less than significant.

**Figure 3.1-2
PV Panel Visibility from State Route 65**



b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Project Impact Analysis: *No Impact*

There are no designated state scenic highways in the Project vicinity or in Tulare County. Portions of State Routes 190, 198, and 180 are eligible for state scenic highway designation, but are not located in the Project vicinity. The proposed Project site is not visible from any of the Tulare County eligible state scenic highways. The nearest eligible scenic highway is State Route 190, located approximately 15.25 miles north of the Project site.

The Tulare County General Plan Update 2030 also lists a series of Scenic County Routes, several of which are located in agricultural areas. The nearest Scenic County Routes to the Project site are Old Stage Road, 10 miles east of the Project site, Avenue 56, approximately 4.25 miles north of the Project site, and Avenue 192, approximately 5.3 miles west of the Project site, as seen on Figure 3.1-1.

The proposed Project site will not be visible from the eligible State Routes 190, 198, and 180; however, the site may be visible from the following roads in Tulare County: Old Stage Road, Avenue 56, and/or Avenue 192, which are designated as Scenic County Corridors. As discussed in response a) above, the proposed Project will include a 50-foot setback from the property line to the solar panels to lessen visual impacts. Due to the civil engineering feature of State Route 65, i.e. that cuts and fills of rolling topography were made to maintain a more level course of travel through rolling hills and valleys, nearly all photovoltaic panels will be located significantly below street-view level along State Route 65, or will be at a slightly higher grade than street view levels. Utility poles, and transmission lines will blend in with the regional viewshed, with other Project features expected to have varying degrees of visibility, but none that would scenic resources. While it is anticipated that the Project will be visible to traffic traveling along State Route 65, there are no designated state scenic highways in the Project vicinity. Therefore, there will be no impact.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will be required to comply with the all requirements of Tulare County zoning, the California Scenic Highway Program (Caltrans) requirements for maintaining eligibility, and requirements of the Scenic Landscape Element of the Tulare County 2030 General Plan Update.

Given that there are no designated state scenic highways in the Project vicinity or in Tulare County, no cumulative impacts to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: ***No Impact***

As noted above, no Project specific or cumulative impacts to this checklist item will occur.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Project Impact Analysis: ***Less than Significant***

The proposed Project would modify the existing subject site character through the conversion of approximately 800 acres of farmland during its construction phase and final use as a solar energy generation facility; this is considered to be a less than significant impact. As noted in response 3.1.a), the Project will have a 50-foot property setback which would reduce visibility of solar panels from being visible to neighboring properties and street-view. Additionally, the Project's geographic contour fluctuates above and below street-view grade at various locations which reduces the Project's visible presence from neighboring properties. The Project proposes fencing around the site perimeter, and to utilize a neutral matte paint color for the O&M building in order to blend in with the natural landscape.

For the short-term, the construction and associated material staging area would have a less than significant impact to the existing visual character of the Project site and its surroundings as construction activities are temporary in nature. After construction of the Project is complete, the site will be vacated from construction equipment, trailers, and associated materials. For the long-term, the introduction of PV modules, substations, O&M building, utility poles, electrical transmission lines, inverters (electrical devices to convert electricity from direct current to alternating current) and associated medium-voltage transformers placed throughout the solar generation field will alter, but not degrade, the viewshed of the existing environment. At the end of the Project life, all Project components will be removed and the site will be materially returned to pre-Project conditions. As noted in response 3.1.a), the proposed Project is anticipated to have minimal site appearance from neighboring properties, as well as for traffic along State Route 65. As such, Project specifics are anticipated to have a less than significant impact to the existing visual character or quality of the Project site and its surroundings.

Cumulative Impact Analysis: ***Less than Significant***

The geographic area of this cumulative analysis is the San Joaquin Valley portion of Tulare County.

The proposed Project will be required to comply with the all requirements of the Tulare County General Plan 2030 Update. Additionally, project components will lessen any visual

degradation that might occur because of the Project. As such, any cumulative impacts will be considered less than significant.

Mitigation Measures:

None Required.

Conclusion:

Less than Significant

As noted above, any impacts resulting from the proposed Project will be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Project Impact Analysis:

Less than Significant with Mitigation

Lighting impacts are often associated with the use of artificial light during the evening and nighttime hours. Impacts include light emanating from building interiors (seen through windows) and light from exterior sources, including building or parking lot lighting, security lighting, street lighting, etc. New lighting will be associated with each substation; however, the lighting will be shielded and directed downward as to not contribute to any glare. To ensure lighting impacts will be minimized, Mitigation Measure 3.1.1 is outlined below.

Glare is typically a daytime occurrence caused by light reflecting off highly polished surfaces such as window glass or polished metallic surfaces. Although selection of the photovoltaic modules has not been finalized, the general characteristics of the photovoltaic modules are that they will be covered with dark, high-light-absorbing, low-reflective glass, and will be mounted on a corrosion-resistant metal racking system. The racking system will be either tracking or fixed, but either way, it is anticipated that operation of the solar facility will not result in appreciable glare, since the structures will have high light-absorbing surfaces. To ensure the minimization of glare, Mitigation Measure 3.1-2 is outlined below.

With these mitigation measures, less than significant project specific impacts related to this Checklist item will occur.

Cumulative Impact Analysis:

Less than Significant Impact with Mitigation

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project (with mitigation), will not result in any significant off-site impacts. Therefore, no significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

- 3.1-1** All exterior lighting shall be so adjusted as to deflect direct rays away from public roadways and adjacent properties.
- 3.1-2** The module racking system and any related tilt-control structures, substation(s), and associated equipment shall utilize muted coating colors, with a matte finish prior to the final inspection by the building department.

Conclusion:

Less than Significant with Mitigation

As noted above, with the inclusion of Mitigation Measures, cumulative impacts to this Checklist item will be less than significant.

REFERENCES

State of California, Governor's Office of Planning and Research, "Thresholds of Significance: Criteria for Defining Environmental Significance," *CEQA Technical Advice Series*
<http://ceres.ca.gov/ceqa/more/tas/Threshold.html>

Tulare County General Plan 2030 Update, Recirculated DEIR, February 2010 (SCH # 2006041162)

Tulare County General Plan 2030 Update, Background Report, February 2010

National Geodetic Survey, <http://www.ngs.noaa.gov/datums/vertical/VerticalDatums.shtml>

Title 24, 2008 Nonresidential Compliance Manual, page 6-20,
http://www.energy.ca.gov/title24/2008standards/nonresidential_manual.html

Caltrans, California Scenic Highway Program: "Frequently Asked Questions,"
http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

Agricultural Land and Forestry Resources

Chapter 3.2

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts to agricultural land and forestry resources providing mitigation measures recommended below are adopted as conditions of approval for the Special Use Permit. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A California Agriculture Land Evaluation and Site Assessment Model study was also conducted by Provost & Pritchard Consulting Group and is included as Appendix F. A detailed review of potential impacts is provided in the analysis that follows.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Agricultural Land and Forestry Resources

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to agricultural land and forestry resources. As required in Section 15126, all phases of the proposed Project will be considered was part of the potential environmental impact.

As noted in 15126.2 a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed Project. In assessing the impact of a proposed Project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the Project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the Project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision will have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”

The environmental setting provides a description of the Agricultural Lands and Forestry Resources in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the

Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

DEFINITIONS

“The California Department of Conservation, Division of Land Resource Protection, maintains the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state’s farmland to and from agricultural use. The map series identifies eight classifications (discussed below) and uses a minimum mapping unit size of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its “Important Farmland Series Maps” every two years¹. Although the program monitors a wide variety of farmland types (more fully described below), Important Farmland consists of lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland.”²

Prime Farmland (P):

*“Prime Farmland is farmland with the best combination of physical and chemical features to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.”*³

Farmland of Statewide Importance (S):

*“Farmland of Statewide Importance is similar to Prime Farmland but has minor shortcomings, such as greater slopes or a lesser ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.”*⁴

Unique Farmland (U):

*“Unique Farmland has lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.”*⁵

¹ California Department of Conservation, DLRP, Farmland Mapping and Monitoring Program, downloaded from, <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>

² Tulare County General Plan 2030 Update, Recirculated DEIR (SCH # 2006041162), page 3.10-4

³ Ibid.

⁴ Ibid.

⁵ Ibid.

Farmland of Local Importance (L):

“Farmland of Local Importance is land important to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee.”⁶

Grazing Land (G):

“Grazing Land is land on which the vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, the University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.”⁷

Urban and Built-Up Land (D):

“Urban and Built-Up Land is land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.”⁸

Other Land (X):

“Other Land is land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.”⁹

Water (W):

“Water is defined as perennial water bodies with an extent of at least 40 acres. While the number of agricultural lands classified as Important Farmlands (i.e., Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) have been decreasing over the past several years, the total acreage for all categories of farmland (including grazing land) remained relatively stable between the years 1998 and 2006 (see Table 3.10-4). The locations of these farmland types are identified in Figure

⁶ Tulare County General Plan 2030 Update, Recirculated DEIR, February 2010 (SCH # 2006041162),, page 3.10-4

⁷ Ibid.

⁸ Ibid. Page 3.10-4 to 3.10-5

⁹ Ibid. Page 3.10-5

3.10-1. The farmlands are concentrated in the Rural Valley/Foothill Planning areas. No important farmlands are located in the Mountain Area.”¹⁰

ABBREVIATIONS

(CALFIRE)	California Department of Forestry and Fire Protection
(CDP)	Census Designated Place
(CLCA)	California Land Conservation Act (Williamson Act)
(DOC)	California Department of Conservation
(FFPA)	Federal Farmland Protection Act
(FMMP)	Farmland Mapping and Monitoring Program
(LESA)	Land Evaluation Site Assessment
(UDB)	Urban Development Boundaries

CEQA THRESHOLDS OF SIGNIFICANCE

The Department of Conservation identifies the location of prime Agricultural Land resource areas and Williamson Act Contract lands. Thresholds of potential significance will include the following:

- Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
- Conflict with Williamson Act Contracts
- Convert Forest Land

ENVIRONMENTAL SETTING

“Tulare County exhibits a diverse ecosystems landscape created through the extensive amount of topographic relief (elevations range from approximately 200 to 14,000 feet above sea level). The County is essentially divided into three eco-regions. The majority of the western portion of the County comprises the Great Valley Section, the majority of the eastern portion of the County is in the Sierra Nevada Section, and a small section between these two sections comprises the Sierra Nevada Foothill Area.”¹¹

Agricultural Productivity

“The Project site is located in the San Joaquin Valley portion of Tulare County. This area is characterized by rich, highly productive farmland. Agriculture is the most important sector in Tulare County’s economy, and agriculture and related industries make Tulare County one of the two most productive agricultural counties in the United States, according to Tulare County Farm Bureau statistics.¹² Agricultural lands (crop and commodity production and grazing) also provide the County’s most visible source of open space lands. As such, the protection of agricultural

¹⁰Tulare County General Plan 2030 Update, Recirculated DEIR, February 2010 (SCH # 2006041162),, page 3.10-5

¹¹ Ibid, page 3.11-5

¹² Tulare County Farm Bureau Statistics 2011

lands and continued growth and production of agriculture industries is essential to all County residents.”¹³

The 2011 Tulare County Annual Crop and Livestock Report listed Tulare County’s total gross production value for 2011 as \$5,629,396,000. Milk was the leading agricultural commodity in Tulare County in 2011, representing 37% of the total crop and livestock value. The 2011 report listed over 120 different commodities, forty-three of which had a gross value greater than \$1 million. The top agricultural commodities in the County in 2011, based on total/gross value were milk, oranges, cattle, grapes, corn – grain silage, and alfalfa.¹⁴

According to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), agricultural lands in Tulare County included 859,991 acres of important farmland (designated as FMMP Prime, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance) and 440,042 acres of grazing land, for a total of 1,300,033 acres of agricultural land.¹⁵ As seen in Figure 3.2-1, the FMMP designates 1,124 acres of the 1,144 acre proposed Project site as Farmland of Local Importance while the remaining 20 acres is designated as Farmland of Statewide Importance.

Much of Tulare County’s farmland is under California Land Conservation Act (Williamson Act) contracts, a program designed to prevent premature conversion of farmland to residential or other urban uses. As of January 1, 2012, there were 1,096,299 acres of farmland under Williamson Act or Farmland Security Zone contracts in Tulare County. This total includes 571,904 acres of Williamson Act prime, 513,243 acres nonprime, and 11,152 acres of Farmland Security Zone lands (The acreage totals also include 6040 acres Williamson Act prime contracted land in nonrenewal and 7513 acres of Williamson Act nonprime in nonrenewal).¹⁶ The entire proposed Project site is under Williamson Act contracts.

Table 3.2-1¹⁷:

2012 Tulare County Lands under Williamson Act or Farmland Security Zone Contracts

Acres	Category
571,904	*Total prime = Prime active + NR Prime
513,243	*Total Nonprime = Nonprime active + NR Prime
11,152	Farmland Security Zone
1,096,299	TOTAL ACRES in Williamson Act and Farmland Security Zone contracts

**Prime total includes 6039.75 acres in nonrenewal; Nonprime total includes 7512.56 acres in nonrenewal*

The California Revised Storie Index is a soil rating based on soil properties that govern a soil’s potential for cultivated agriculture in California. The Storie Index assesses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including

¹³ Tulare County General Plan 2030 Update, August 2012, page 3-4

¹⁴ 2011 Tulare County Annual Crop and Livestock Report, June 2012

<http://agcomm.co.tulare.ca.us/default/index.cfm/linkservid/0C140763-0E3D-CCD4-C46162E044E462E6/showMeta/0/>

¹⁵ Department of Conservation, Farmland Mapping and Monitoring Program,

http://redirect.conservaion.ca.gov/dlrp/fmmp/county_info_results.asp

¹⁶ Tulare County Subvention Report “California Open Space Subvention Act Program Survey for Fiscal Year 2012-2013” (submitted to Department of Conservation November 21, 2012)

¹⁷ Ibid.

drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0-100 percent is determined for each factor, and the scores are then multiplied together to derive an index rating. The ratings have been combined into six grade classes as follows: Grade 1 (excellent), 100 to 80; grade 2 (good), 79 to 60; grade 3 (fair), 59 to 40; grade 4 (poor), 39 to 20; grade 5 (very poor), 19 to 10; and grade 6 (nonagricultural), less than 10. Approximately 9% of the proposed Project site has a Storie Index rating of 1, 59% has a Storie Index rating of 3 and the remaining 32% has a Storie Index rating of 4¹⁸.

Another way of measuring the suitability of soils for most field crops is by determining the soil capability class. In this system, soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. They are also classified based on whether they are irrigated or nonirrigated. Capability classes are designated by the numbers 1 through 8. The Project site is primarily Nonirrigated Capability Class 3 and 4, which means that soils have severe to very severe limitations that restrict the choice of plants used, or that requires moderate conservation practices, or both¹⁹.

Important Farmland Trends

Using data collected by the FMMP, farmland acreage has been consistently decreasing for each two-year period since 1998²⁰. In the 2010 FMMP analysis, Tulare County lost 17,502 acres of important farmland, and 17,748 acres of total farmland between 2008 and 2010.²¹

“For Tulare County and the surrounding region, the reported major cause of this conversion is the downgrading of important farmlands to other agricultural uses (e.g., such as expanded or new livestock facilities, replacing irrigated farmland with non-irrigated crops, or land that has been fallow for six years or longer).”²²

Forest Lands

“Timberlands that are available for harvesting are located in the eastern portion of Tulare County in the Sequoia National Forest. Hardwoods found in the Sequoia National Forest are occasionally harvested for fuel wood, in addition to use for timber production. Since most of the timberlands are located in Sequoia National Forest, the U.S. Forest Service has principal jurisdiction, which encompasses over 3 million acres. The U.S. Forest Service leases these federal lands for timber harvests.”²³ As the proposed Project is located on the Valley floor, there is no timberland or forest in the Project vicinity.

¹⁸ See Appendix A

¹⁹ Ibid.

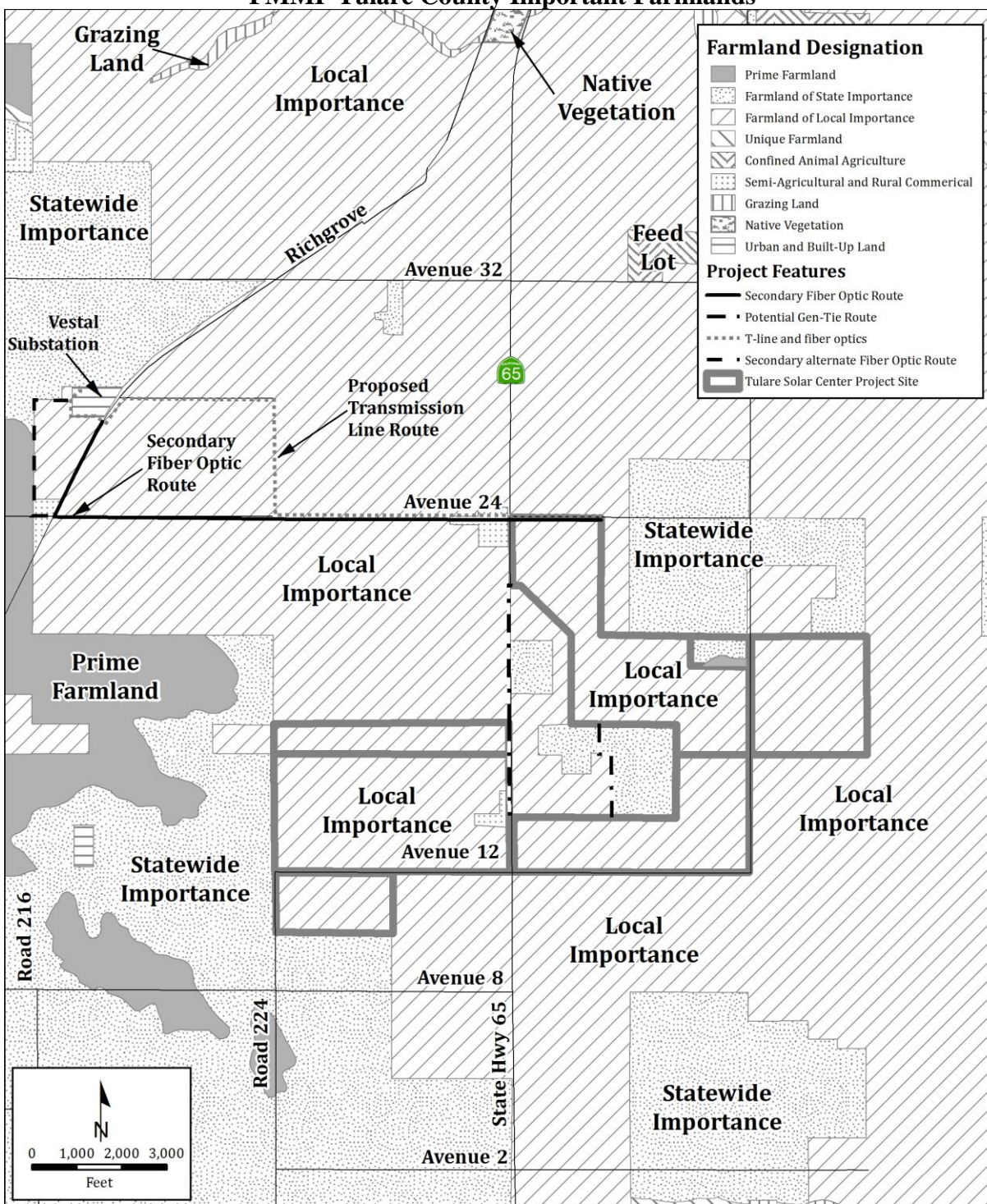
²⁰ California Department of Conservation, Division of Land Resource Protection, “Williamson Act Status Report (2010)” downloaded from “Williamson Act Reports and Statistics”, at: http://www.conservation.ca.gov/dlrp/lca/stats_reports/Pages/index.aspx

²¹ California Department of Conservation, Division of Land Resource Protection, FMMP, “Tulare County 2008-2010 Land Use Conversion” Report, Table A-44

²² Tulare County General Plan 2030 Update, Recirculated DEIR (SCH # 2006041162), Feb. 2010, page 3.10-13.

²³ Tulare County General Plan 2030 Update, Background Report, February 2010, page 4-17

Figure 3.2-1
FMMP Tulare County Important Farmlands



REGULATORY SETTING

Federal Agencies & Regulations

Federal Farmland Protection Act (FFPA)

“The FFPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland... Projects are subject to FFPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.”²⁴

US Forest Service

“The U.S. Department of Agriculture Forest Service is a Federal agency that manages public lands in national forests and grasslands. The Forest Service is also the largest forestry research organization in the world, and provides technical and financial assistance to state and private forestry agencies. Gifford Pinchot, the first Chief of the Forest Service, summed up the purpose of the Forest Service—“to provide the greatest amount of good for the greatest amount of people in the long run.””²⁵

State Agencies & Regulations

California Department of Conservation: Farmland Mapping and Monitoring Program

“The California Department of Conservation (DOC), under the Division of Land Resource Protection, has developed the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state’s farmland to and from agricultural use. Data is collected at the county level to produce a series of maps identifying eight land use classifications using a minimum mapping unit of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the “Important Farmland Series Maps” every two years.”²⁶

Williamson Act: California Land Conservation Act of 1965

“The California Land Conservation Act (CLCA) of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the “Williamson Act”, enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of ten years. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market (speculative) value. Local governments

²⁴ Federal Farmland Protection Act, <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/alphabetical/fppa>

²⁵ US Forest Service, “About Us – Meet the Forest Service”, <http://www.fs.fed.us/aboutus/meetfs.shtml>

²⁶ Tulare County General Plan 2030 Update, Background Report, February 2010, page 4-12

receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.”²⁷

California Department of Forestry and Fire Protection (CAL FIRE)

“CAL FIRE manages eight Demonstration State Forests that provide for commercial timber production, public recreation, and research and demonstration of good forest management practices. CAL FIRE foresters can be found in urban areas working to increase the number of trees planted in our cities, or preventing the spread of disease by identifying and removing infected trees. A Native American burial ground in the path of a logging operation or fire may be verified and saved due to a CAL FIRE archaeologist's review of the area. And, an improved strain of trees, resistant to disease and pests, may be nurtured and introduced by a CAL FIRE forester.”²⁸

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has policies that apply to projects within Tulare County. General Plan policies that are applicable to the proposed Project are listed below.

AG-1.3 Williamson Act

The County should promote the use of the California Land Conservation Act (Williamson Act) on all agricultural lands throughout the County located outside established Urban Development Boundaries (UDBs). However, this policy carries with it a caveat that support for the Williamson Act as a tax reduction component is premised on continued funding of the State subvention program that offsets the loss of property taxes.

AG-2.6 Biotechnology and Biofuels

The County shall encourage the location of industrial and research oriented businesses specializing in biotechnologies and biofuels that can enhance agricultural productivity, enhance food processing activities in the County, provide for new agriculturally-related products and markets, or otherwise enhance the agricultural sector in the County.

AG-2.11 Energy Production

The County shall encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, and solar or wind farms.

²⁷ Tulare County General Plan 2030 Update, Background Report, February 2010, page 4-13

²⁸ California Department of Forestry and Fire Protection, <http://www.fire.ca.gov/about/about.php>

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural uses?**

Project Impact Analysis:

Significant and Unavoidable Impact

The site comprises seven parcels, APNs 339-100-07, 339-110-06, 339-110-10, 339-110-16, 339-140-01, 339-140-08, and 339-140-10, which are all zoned Exclusive Agricultural (AE-40) and are designated Rural Valley Lands under the Tulare County General Plan. The proposed Project will operate a solar photovoltaic generating facility (the Project) on up to 800 acres of a multi-parcel site totaling approximately 1,144 acres near the Census Designated Place (CDP) of Ducor in unincorporated Tulare County.

Pursuant to CEQA Statute §21060.1, “Agricultural land” means Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria. The proposed Project site consists of undeveloped land that is zoned for agriculture, and is primarily designated as Farmland of Local Importance by the California Farmland Mapping and Monitoring Program (FMMP), with the exception of one 20-acre parcel which has a Lands of Statewide Importance designation. The subtransmission power lines and fiber optic lines, each approximately 2.5 miles in length, exist or will be located along roadway right-of-ways and are therefore not anticipated to impact any farmlands. However, it should be noted that these lines would be located adjacent to mainly areas of Farmland of Local Importance, with some portions of these alignments (with existing subtransmission lines) adjacent to Lands of Statewide Importance. All proposed Project lands are contracted under the Williamson Act, and an initial review of site characteristics suggests a non-prime designation is appropriate for all parcels. The proposed Project is consistent with Section 16 of Ordinance 352, as amended, allowing solar PV electric generating facilities within agricultural zoned lands, subject to a Special Use Permit and Developer Agreement.

Although the proposed Project is surrounded by agricultural uses, the site lacks irrigation water and prime soils, which historically have resulted in sub-optimal/economically unproductive dry-farming. As such, the proposed Project would assist the State in meeting renewable portfolio standards on property that is not currently being put to the highest and best use.

Project construction and operation generally requires a focus in three major areas which would change the existing environmental farmland setting for the facility’s operation lifetime. The areas of focus include: (1) the solar field with associated equipment, including solar PV panels/modules, racking systems (which may or may not include tracking devices), inverters, intermediate voltage transformers, access roads, and underground, above-ground, or overhead electrical systems to collect and consolidate power from across the project, (2) a substation that receives the solar field’s electrical production and increases the voltage to match the voltage of the adjacent utility grid via a generator step-up transformer, and (3) any other electrical interconnection components necessary for the Project’s production to reach the utility grid, including disconnect equipment, communications lines (e.g. fiber optics) and a sub-transmission tap line. The proposed Project perimeter will be secured by an 8-foot-high, chain-link perimeter fence with several normally locked gate access points into the Project site.

The proposed Project could result in the conversion of Farmland of Local Importance to non-agricultural use, as seen in Figure 3.2-1; however, the potential conversion will be limited for two reasons: 1) the proposed Project will not introduce a nonagricultural use that is sensitive to or incompatible with agricultural operations that will occur nearby; and 2) at the end of its operating life, infrastructure associated with the solar facility will be removed, which will allow the proposed Solar Facility site to return to agricultural use, via a reclamation plan which will be a condition of approval, as described in Chapter 2.

To further assess potential impacts associated with farmland conversion, the Land Evaluation Site Assessment (LESA) model, developed by Department of Conservation, was utilized. The Model evaluates measures of soil resource quality, the proposed Project size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Taking into account all of the factors previously mentioned, the model calculates a score, from 1 to 100, and any project that scores a 40 or above would be considered to potentially have a significant contribution to farmland conversion. The LESA model conducted for this proposed Project resulted in an agricultural conversion score of 53.²⁹ As such, impacts resulting from agricultural conversion will be significant and unavoidable.

Cumulative Impact Analysis:

Significant and Unavoidable Impact

The geographic area of this cumulative analysis is the entire State of California. This cumulative analysis is based on the Statewide FMMP map provided by the California Department of Conservation.

The proposed Project is consistent with Exclusive Agriculture designations subject to an approved Special Use Permit and the Project site is not located on Prime Farmland or Unique Farmland. Approximately 20 acres of the total 1,144 acres are classified as Farmland of Statewide Importance, with the remaining 1,124 acres having a designation of Farmland of Local Importance.

A LESA model was performed on the proposed Project site that resulted in an agricultural conversion score of 53. As such, the proposed Project has the potential to cumulatively result in the conversion of agricultural land to a non-agricultural use.

Mitigation Measures:

- The applicant shall enter into agreement with Tulare County to establish a site reclamation plan as a Condition of Approval of the Special Use Permit.
- There shall be a cash bond per the developer agreement, which shall be subject to approval by the Tulare County Board of Supervisors. The developer agreement shall include the following requirements:
 - a. An annual payment to the General Fund for the cost recovery for public service impacts;
 - b. Payment of development impact fees;
 - c. Payment for loss of Williamson Act subventions;
 - d. Compliance and monitoring fees and costs;

²⁹ See Appendix A

- e. Payment of taxes; and
- f. Adherence to the Tulare County Right to Farm Ordinance.

Conclusion:

Significant and Unavoidable Impact

As noted above, the Project specifics would have a significant and unavoidable impact to this checklist item as a result of the proposed Project.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Project Impact Analysis:

Less than Significant Impact

The Project site is zoned AE-40 (Exclusive Agricultural – 40 acre minimum). The proposed Photovoltaic facility is consistent with the AE-40 zone subject to an approved Special Use Permit 11-062. In addition, solar energy generating facilities have been determined to be compatible with the Exclusive Agriculture Zone Districts by action taken by the Board of Supervisors on July 13, 2010 (Resolution No. 2010-0590) with conditions of approval set forth in Special Use Permits (See Appendix G Resolution No. 2010-0590). The Project does not propose a general plan amendment or a rezone classification.

All parcels are under Williamson Act Contracts: The site comprises seven parcels, APNs 339-100-07, 339-110-06, 339-110-10, 339-110-16, 339-140-01, 339-140-08, and 339-140-10, totaling approximately 1,144 acres which are all zoned Exclusive Agricultural (AE-40) and are designated Rural Valley Lands under the Tulare County General Plan. The Williamson Act (Act) authorizes the Department of Conservation oversight of the Act, and local governments have primary responsibility for implementing the program. Government Code section 51238.1 addresses compatibility requirements on Williamson Act contracted lands. The Act grants cities and counties broad discretion in adopting local rules defining allowable (compatible) uses on all parcels under contract within agricultural preserves (Government Code Section 51231). In Tulare County, allowed agricultural and compatible uses on Williamson Act contracted lands are defined in Board of Supervisors Resolution No. 89-1275 (“Uniform Rules for Agricultural Uses”). Uses in agricultural zones (including the AE-40 zone) allowed either by right or with a Special Use Permit determined to be compatible uses under the Williamson Act. Furthermore, Resolution 2010-0717 establishes criteria for public and private utility structures proposed on agricultural zoned lands and lands under Williamson Act Contracts (See Appendix G). The Tulare County Board of Supervisors also adopted of Resolutions 89-1275 and 99-0620, which identify the construction of gas, electric, water, and community utility facilities to be compatible agricultural uses in the Preserve/ Farmland Zones, subject to first securing a Special Use Permit in accordance with County Ordinance 352, and as periodically amended (Appendix G). Therefore, any Project impacts would be less than significant.

Cumulative Impact Analysis:

Less than Significant

The geographic area of this cumulative analysis is the entire State of California. This cumulative analysis is based on provisions of the California Land Conservation Act of 1965 (Williamson Act) and on Tulare County allowed uses in agricultural zones.

The proposed Project will not result in permanent conversion of prime farmland to a non-agricultural use. While there are Williamson Act-contracted lands in the proposed Project site, it is not anticipated that the proposed Project will cause the conversion or cancellation of existing contracts. The proposed Project is consistent with the Exclusive Agriculture zone classification subject to approval of a Special Use Permit. Therefore, less than significant impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

As noted above, less than significant Project specific or cumulative impacts will occur.

- c) **Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code § 12220(q), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?**

Project Impact Analysis:

No Impact

The Project site and surrounding areas are located in the Valley portion of Tulare County and have agricultural zoning. The area contains no lands zoned or identified as forest land or timberland. The Project site is zoned as AE-40 (Exclusive Agricultural Zone – 40 Acre Minimum). The proposed Project will not conflict with existing zoning for forest land or cause rezoning of forest land. As such, no Project specific impacts to this checklist item will occur.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project is not located within a forestland zone or would require the change of a forestland zone. As such no cumulative impacts to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project specific or cumulative impacts to this checklist item will occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

Project Impact Analysis: *No Impact*

As noted above, the proposed Project is not located within a forest land zone or will require the change of a forest land zone. As such, no Project specific impacts to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted above, the proposed Project is not located within a forest land zone or will require the change of a forest land zone. As such, no cumulative impacts to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project specific or cumulative impacts to this checklist item will occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of agricultural use or conversion of forest land to non-forest use?

Project Impact Analysis: *Less than Significant Impact*

The proposed Project would span over approximately 1,144 acres of agricultural land to accommodate development of the solar facility. However, land on the proposed Project site is identified as Farmland of Local Importance by the FMMP, with the exception of one 20-acre parcel which has a Lands of Statewide Importance designation. The proposed Project is not located within forest land. Furthermore, solar facilities are considered to be compatible uses with farmlands and lands in Williamson Act Contract subject to approval of a Special Use Permit. Therefore, upon approval of the SUP application, the proposed Project would be consistent with County Ordinance and would not conflict with the existing zoning of the proposed Project site.

The land in the immediate vicinity of the proposed Project includes cultivated and uncultivated farmlands. A small number of scattered farm residences and buildings are located near the east, western, and south portions of SR 65 and Avenue 24 intersection. Implementation of the proposed Project would only occur within the confines of the proposed Project area. As discussed in Chapter 2, "Project Description," operation and maintenance activities associated with solar facility are minimal compared to those for conventional power plant facilities. The proposed Project would operate during daylight hours only, and no heavy equipment would be used during normal project operation. The PV modules are non-reflective and convert sunlight directly into electricity; therefore, they consume no fossil fuels and emit no pollutants during Project operations. Therefore, the proposed Project would not include activities that could restrict or impair agricultural production or otherwise impact the uses that exist on adjacent land. Because no other changes are expected to the existing environment as a result of activities proposed in the Project area, and as discussed under impact discussion 3.2 (a) above, the proposed Project would not result in the conversion of farmland to non-farmland uses on adjacent properties. As a result, this impact is considered to be less than significant.

Cumulative Impact Analysis: *Less than Significant*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted above, the proposed Project is not located within a forest land zone or will require the change of a forest land zone. As such, no cumulative impacts to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *Less than Significant*

As noted above, no Project specific or cumulative impacts to this checklist item will occur.

REFERENCES

California Department of Conservation, DLRP, Farmland Mapping and Monitoring Program, downloaded from, <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>

Custom Soils Resource Report for Tulare Solar Center, Provost and Pritchard Consulting Group, July 2012

California Agricultural Land Evaluation and Site Assessment Model for Tulare Solar Center, Provost & Pritchard Consulting Group, July 2012

Tulare County Board of Supervisors, Collection of Agriculture Use Adopted Resolution, Appendix G- Resolution No. 2010-0590, Resolution No. 2010-0591, Resolution No. 2010-0717, Resolution No. 2010-0458, Resolution No. 89-1275, and Resolutions No. 99-0620

Tulare County General Plan 2030 Update, Recirculated DEIR (SCH # 2006041162), page 3.10-4

Tulare County Farm Bureau Statistics 2011

2011 Tulare County Annual Crop and Livestock Report , June 2012
<http://agcomm.co.tulare.ca.us/default/index.cfm/linkservid/0C140763-0E3D-CCD4-C46162E044E462E6/showMeta/0/>

Department of Conservation, Farmland Mapping and Monitoring Program,
http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp

Tulare County Subvention Report “California Open Space Subvention Act Program Survey for Fiscal Year 2012-2013” (submitted to Department of Conservation November 21, 2012)

Air Quality

Chapter 3.3

SUMMARY OF FINDINGS

The long-term operational portion of the proposed Project will result in less than significant impacts to Air Quality and therefore, no mitigation measures are required. However, the Project's short-term construction phase is anticipated to exceed the Air District's threshold levels of significance for NO_x and PM₁₀. Although the proposed Project construction phase is temporary and short-term, the impacts are determined to be significant and unavoidable during construction activities. Therefore, if the project is to be approved, mitigation measures recommended below would be required to be adopted as conditions of approval of the Special Use Permit in order that significant impacts related to construction can be reduced to the greatest degree feasible, and a Statement of Overriding Considerations will also need to be adopted by the decision-making body. Air quality impacts from the proposed Project have been estimated using the District's Solar Project Calculator, EMFAC20011, and the Sacramento Metropolitan Air Quality Management District's *Construction Mitigation Calculator Model, Version 6.1.1.*, included as Appendix B. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter.

A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

CEQA Requirements for Evaluation of Air Quality

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Air Quality. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact. As noted in Section 15126.2 a), "[a]n EIR shall identify and focus on the significant environmental effects of the proposed Project. In assessing the impact of a proposed Project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the Project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the Project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision will have the effect of attracting people to

the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”¹

The environmental setting provides a description of the Air Quality in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

CEQA Thresholds of Significance

The significance criteria for this analysis were developed from criteria presented in Appendix G, “Environmental Checklist Form”, of the CEQA Guidelines. The proposed project would result in a significant impact if it would:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

DEFINITIONS/ACRONYMS

Definitions

- **Ambient Air Quality Standards**, These standards measure outdoor air quality. They identify the maximum acceptable average concentrations of air pollutants during a specified period of time. These standards have been adopted at a State and Federal level.
- **Best Available Control Measures (BACM)**, A set of programs that identify and implement potentially best available control measures affecting local air quality issues.

2012 CEQA Guidelines, Section 15126.2 (a)

- **Best Available Control Technologies (BACT)**, The most stringent emission limitation or control technique of the following: 1.) Achieved in practice for such category and class of source 2.) Contained in any State Implementation Plan approved by the Environmental Protection Agency for such category and class of source. A specific limitation or control technique shall not apply if the owner of the proposed emissions unit demonstrates to the satisfaction of the APCO that such a limitation or control technique is not presently achievable 3.) Contained in an applicable federal New Source Performance Standard or 4.) Any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be cost effective and technologically feasible for such class or category of sources or for a specific source.
- **Carbon Dioxide (CO₂)**, A naturally occurring gas, and also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.
- **Carbon Monoxide (CO)**, Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone).
- **Climate Change**, Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.
- **Global Warming**, Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.
- **Greenhouse Effect**, Trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. Some of the heat flowing back toward space from the Earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the Earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.
- **Greenhouse Gas**, Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

- **Hydrogen Sulfide (H₂S)**, Hydrogen sulfide is a highly toxic flammable gas. Because it is heavier than air, it tends to accumulate at the bottom of poorly ventilated spaces.
- **Lead (Pb)**, Lead is the only substance which is currently listed as both a criteria air pollutant and a toxic air contaminant. Smelters and battery plants are the major sources of the pollutant "lead" in the air. The highest concentrations of lead are found in the vicinity of nonferrous smelters and other stationary sources of lead emissions. The US EPA's health-based national air quality standard for lead is 1.5 micrograms per cubic meter (µg/m₃) [measured as a quarterly average].
- **Metropolitan Planning Organization (MPO)**, Tulare County Association of Governments (TCAG) is the MPO for Tulare County. MPO's are responsible for developing reasonably available control measures (RACM) and best available control measures (BACM) for use in air quality attainment plans and for addressing Transportation Conformity requirements of the federal Clean Air Act.
- **Mobile Source**, A mobile emission source is a moving object, such as on-road and off-road vehicles, boats, airplanes, lawn equipment, and small utility engines.
- **Nitrogen Oxides (Oxides of Nitrogen, NO_x)**, NO_x are compounds of nitric oxide (NO) and nitrogen dioxide (NO₂). NO_x are primarily created from the combustion process and are a major contributor to ozone smog and acid rain formation. NO_x also forms ammonium nitrate particulate in chemical reactions that occur when NO_x forms nitric acid and combines with ammonia. Ammonium nitrate particulate is an important contributor to PM₁₀ and PM_{2.5}.
- **Ozone (O₃)**, Ozone is a pungent, colorless, toxic gas created in the atmosphere rather than emitted directly into the air. O₃ is produced in complex atmospheric reactions involving oxides of nitrogen, reactive organic gases (ROG), and ultraviolet energy from the sun in a photochemical reaction. Motor vehicles are the major sources of O₃ precursors.
- **Ozone Precursors**, Chemicals such as non-methane hydrocarbons, also referred to as ROG, and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, which is a major component of smog.
- **Photochemical**, Some air pollutants are direct emissions, such as the CO produced by an automobile's engine. Other pollutants, primarily O₃, are formed when two or more chemicals react (using energy from the sun) in the atmosphere to form a new chemical. This is a photochemical reaction.
- **Particulate Matter 2.5 Micrometers (PM_{2.5})**, The federal government has recently added standards for smaller dust particulates. PM_{2.5} refers to dust/particulates/aerosols that are 2.5 microns in diameter or smaller. Particles of this size can be inhaled more deeply in the lungs and the chemical compositions of some particles are toxic and have serious health impacts.

- **Particulate Matter 10 Micrometers (PM₁₀)**, Dust and other particulates exhibit a range of particle sizes. Federal and State air quality regulations reflect the fact that smaller particles are easier to inhale and can be more damaging to health. PM₁₀ refers to dust/particulates that are 10 microns in diameter or smaller. The fraction of PM between PM_{2.5} and PM₁₀ is comprised primarily of fugitive dust. The particles between PM₁₀ and PM_{2.5} are primarily combustion products and secondary particles formed by chemical reactions in the atmosphere.
- **Reactive Organic Gas (ROG)**, A photo chemically reactive gas, composed of non-methane hydrocarbons that may contribute to the formation of smog. Also sometimes referred to as Volatile Organic Compounds (VOCs).
- **Reasonable Available Control Measures (RACM)**, A broadly defined term referring to technologies and other measures that can be used to control pollution. They include Reasonably Available Control Technology and other measures. In the case of PM₁₀, RACM refers to approaches for controlling small or dispersed source categories such as road dust, woodstoves, and open burning. Regional Transportation Planning Agencies are required to implement RACM for transportation sources as part of the federal ozone attainment plan process in partnership with the Air District.
- **Reasonable Available Control Technologies (RACT)**, Devices, systems, process modifications, or other apparatuses or techniques that are reasonably available, taking into account: the necessity of imposing such controls in order to attain and maintain a national ambient air quality standard; the social, environmental, and economic impact of such controls; and alternative means of providing for attainment and maintenance of such a standard.
- **San Joaquin Valley Air Basin (SJVAB)**, An air basin is a geographic area that exhibits similar meteorological and geographic conditions. California is divided into 15 air basins to assist with the statewide regional management of air quality issues. The SJVAB extends in the Central Valley from San Joaquin County in the north to the valley portion of Kern County in the south.
- **San Joaquin Valley Air Pollution Control District (Air District)**, The Air District is the regulatory agency responsible for developing air quality plans, monitoring air quality, developing air quality regulations, and permitting programs on stationary/industrial sources and agriculture and reporting air quality data for the SJVAB. The Air District also regulates indirect sources and has limited authority over transportation sources through the implementation of transportation control measures (TCM).
- **Sensitive Receptors**, Sensitive receptors are defined as land uses that typically accommodate sensitive population groups such as long-term health care facilities, rehabilitation centers, retirement homes, convalescent homes, residences, schools, childcare centers, and playgrounds.

- **Sensitive Population Groups**, Sensitive population groups are a subset of the general population that are at greater risk than the general population to the effects of air pollution. These groups include the elderly, infants and children, and individuals with respiratory problems, such as asthma.
- **Sulfur Dioxide (SO₂)**, Sulfur dioxide belongs to the family of SO_x. These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes.
- **Stationary Source**, A stationary emission source is a non-mobile source, such as a power plant, refinery, or manufacturing facility.
- **Sulfates**, Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. SO_x can form sulfuric acid in the atmosphere that in the presence of ammonia forms ammonium sulfate particulates, a small but important component of PM₁₀ and PM_{2.5}. Sulfates increase the acidity of the atmosphere and form acid rain.
- **Transportation Conformity**, A federal requirement for transportation plans and projects to demonstrate that they will not result in emissions that exceed attainment plan emission budgets or exceed air quality standards.
- **Transportation Control Measures (TCMs)**, Any measure that is identified for the purposes of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions.
- **Transportation Management Agencies**, Transportation Management Agencies are private, non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center, or industrial park. Transportation Management Agencies are appropriate for any geographic area where there are multiple employers or businesses clustered together that can benefit from cooperative transportation management or parking brokerage services. Regional and local governments, business associations, and individual businesses can all help establish Transportation Management Agencies.
- **Transportation Management Associations (TMAs)**, Groups of employers uniting together to work collectively to manage transportation demand in a particular area.
- **Tulare County Association of Governments (TCAG)**, TCAG is the Transportation Planning Agency (TPA) for Tulare County. TCAG is also designated as a Metropolitan Planning Organization (MPO), the agency responsible for preparing long range Regional Transportation Plans and demonstrating Transportation Conformity with air quality plans.
- **Wood-burning Devices**, Wood-burning devices are designed to burn “solid fuels” such as cordwood, pellet fuel, manufactured logs, or any other non-gaseous or non-liquid fuels.

Acronyms

• (ACM)	Asbestos Containing Materials
• (BACM)	Best Available Control Measures
• (CAA)	Clean Air Act
• (CARB)	California Air Resources Board
• (CH ₄)	Methane
• (CO)	Carbon Monoxide
• (CO ₂)	Carbon Dioxide
• (GAMAQI)	Guide for Assessing and Mitigating Air Quality Impacts
• (HCFCs)	Hydrochlorofluorocarbons
• (HFCs)	Hydrofluorocarbons
• (HI)	Hazard Index
• (H ₂ S)	Hydrogen Sulfide
• (NAAQS)	National Ambient Air Quality Standards
• (NO ₂)	Nitrogen Dioxide
• (NESHAPs)	National Environmental Standards for Hazardous Air Pollutants
• (MPO)	Metropolitan Planning Organization
• (O ₃)	Ozone
• (Pb)	Lead
• (PFCs)	Perfluorocarbons
• (PM _{2.5})	Particulate Matter 2.5 Micrometers
• (PM ₁₀)	Particulate Matter 10 Micrometers
• (RACT)	Reasonable Available Control Measures
• (ROG)	Reasonable Available Control Technologies
• (SEKI)	Sequoia and Kings Canyon National Park
• (SIP)	State Implementation Plan
• (SF ₆)	Sulfur Hexafluoride
• (SO ₂)	Sulfur Dioxide
• (AIR DISTRICT)	San Joaquin Valley Air Pollution Control District
• (SJVAB)	San Joaquin Valley Air Basin
• (TAC)	Toxic Air Contaminants
• (TCAG)	Tulare County Association of Governments
• (TCM)	Transportation Control Measures
• (URBEMIS)	Urban Emissions model
• (US EPA or EPA)	United States Environmental Protection Agency
• (VOC)	Volatile Organic Compound

“To assist in the evaluation of the air quality impacts, the Air District regulated contaminants are discussed briefly below:

Carbon Monoxide (CO)

Sources: Internal combustion engines, principally in vehicles, produce carbon monoxide due to incomplete fuel combustion. Various industrial processes also produce carbon monoxide emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant.

Health Effects: Carbon monoxide does not irritate the respiratory tract, but passes through the lungs directly into the blood stream and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen. CO is not known to have adverse effects on vegetation, visibility or materials.

Level of Significance: The Air District has not established a CO emissions significance threshold for development projects covered by the Air District's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI).

Nitrogen Dioxide (NO₂)/Nitrogen Oxides (NO_x)

Sources: High combustion temperatures in both external combustion sources and internal combustion sources cause nitrogen and oxygen to combine and form nitric oxide. Further reaction produces additional oxides of nitrogen. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants.

Health Effects: Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form nitrogen dioxide and ozone. Nitrogen dioxide, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppmv on days of 10-mile visibility. NO_x is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Level of Significance: The Air District has established a NO_x emissions significance threshold for development projects covered by the GAMAQI of 10 tons per year².

Sulfur Dioxide (SO₂)/Sulfur Oxides (SO_x)

Sources: SO₂ is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO₂ levels are generally higher in the winter months. Decreasing levels of SO₂ in the atmosphere reflect the use of natural gas in power plants and boilers.

Health Effects: At high concentrations, sulfur dioxide irritates the upper respiratory tract. At

² RULE 9510 INDIRECT SOURCE REVIEW, <http://www.valleyair.org/rules/currentrules/r9510.pdf>

lower concentrations, when respiration in combination with particulates, SO₂ can result in greater harm by injuring lung tissues. Sulfur oxides (SO_x), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. Sulfur oxides can also react to produce sulfates that reduce visibility and sunlight.

Level of Significance: The Air District has not established a SO_x emissions significance threshold for development projects covered by the GAMAQI³.

Particulates

Sources: Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates.

Health Effects: In the respiratory tract, very small particles of certain substances may produce injury by themselves, or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

Level of Significance: Although a threshold was not established in GAMAQI by the Air District, 15 tons per year threshold for PM₁₀ was utilized in this analysis. This threshold was established by the Air District as the limit at which an impact to the SJVAB may occur.

Hydrocarbons (HC) and other Reactive Organic Gases (ROG)

Sources: Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations.

Effects: Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions which produce photochemical oxidants.

Level of Significance: The Air District has established a ROG emissions significance threshold for development projects covered by the GAMAQI of 10 tons per year.”⁴

³ Guide for Assessing and Mitigating Air Quality Impacts,
<http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf>

⁴ Air Quality Impact Analysis, pages 38 to 39

ENVIRONMENTAL SETTING

“Tulare County falls within the southern portion of the San Joaquin Valley Air Basin (SJVAB), which is bordered on the east by the Sierra Nevada range, on the west by the Coast Ranges, and on the south by the Tehachapi Mountains. These features restrict air movement through and out of the SJVAB.

The topography of Tulare County significantly varies in elevation from its eastern to western borders, which results in large climatic variations that ultimately affect air quality. The western portion of the County is within the low-lying areas of the SJVAB. This portion of the County is much dryer in comparison to the eastern portion that is located on the slopes of the Sierra Nevada Mountains. The higher elevation contributes to both increased precipitation and a cooler climate.

Wind direction and velocity in the eastern section varies significantly from the western portion of the County. The western side receives northwesterly winds. The eastern side of the County exhibits more variable wind patterns, but the wind direction is typically up-slope during the day and down-slope in the evening. Generally, the wind direction in the eastern portion of the County is westerly; however terrain differences can create moderate directional changes.

The SJVAB is highly susceptible to pollutant accumulation over time due to the transport of pollutants into the SJVAB from upwind sources. Stationary emission sources in the County include the use of cleaning and surface coatings and industrial processes, road dust, local burning, construction/demolition activities, and fuel combustion. Mobile emissions are primarily generated from the operation of vehicles. According to air quality monitoring data, the SJVAB has been in violation for exceeding ozone and PM10 emission standards for many years.”⁵

Existing Conditions Overview

“Unlike other air basins in California, the pollution in the San Joaquin Valley Air Basin (SJVAB) is not produced by large urban areas. Instead, emissions are generated by many moderate sized communities and rural uses. Emission levels in the Central Valley have been decreasing overall since 1990. This can be primarily attributed to motor vehicle emission controls that reduce the amount of vehicle emissions and controls on industrial/stationary sources. In spite of these improvements, the San Joaquin Valley is still identified as having some of the worst air quality in the nation.

The main source of CO and NO_x emissions is motor vehicles. The major contributors to ROG emissions are mobile sources and agriculture. ROG emissions from motor vehicles have been decreasing since 1985 due to stricter standards, even though the vehicle miles have been increasing. Stationary source regulations implemented by the Air District have also substantially reduced ROG emissions. ROG from natural sources (mainly from trees and plants) is the largest source of this pollutant in Tulare County. Atmospheric modeling accomplished for recent ozone planning efforts has found that controlling NO_x is more effective at reducing ozone

⁵ Tulare County 2030 General Plan RDEIR, page 3.3-9

concentrations than controlling ROG. However, controls meeting RACT and BACT are still required for Air District plans.

The SJVAB has been ranked the 2nd worst in the United States for O₃ levels, even though data shows that overall O₃ has decreased between 1982 and 2001.

Direct PM₁₀ emissions have decreased between the years 1975 and 1995 and have remained relatively constant since 2000. The main sources of PM₁₀ in the SJVAB are from vehicles traveling on unpaved roads and agricultural activities. Regional Transportation Planning Agencies must implement BACM for sources of fine particulate matter (PM₁₀) to comply with federal attainment planning requirements for PM₁₀.

Attainment status is based on air quality measurements throughout the entire SJVAB. A violation at a single air monitoring station anywhere in the air basin leads to a non-attainment designation for the entire air basin. In summary, the attainment status of Tulare County is as follows:

- **O₃. 1-hour Ozone.** In 2005 EPA revoked the 1-hour ambient air quality standard so there is no federal designation. Although the standard was revoked, the Air District was required to continue to implement many of the 1-hour planning requirements. The SJVAB is currently classified as non-attainment/severe for the State standard. The California Air Resources Board submitted the 2004 Extreme Ozone Attainment Demonstration Plan to the EPA on November 15, 2004. On August 21, 2008, the District adopted Clarifications for the 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone. On June 30, 2009, EPA proposed approval and partial disapproval of San Joaquin Valley's 2004 Extreme Ozone Attainment Plan for 1-hour ozone
- **8-hour Ozone.** Attainment status is designated non-attainment for the State. On April 30, 2007 the Governing Board of the San Joaquin Valley Air Pollution Control District voted to request the EPA to reclassify the San Joaquin Valley Air Basin as nonattainment/extreme for the federal 8-hour ozone standard. The California Air Resources Board, on June 14, 2007, approved this request and forwarded it to the EPA for action on November 16, 2007. The reclassification would become effective upon EPA final rule making after a notice and comment process and is not yet in effect.
- **PM₁₀.** Federal attainment status for the County is Attainment as of September 28, 2008. The SJVAB and the County are designated nonattainment for the State.
- **PM_{2.5}.** The County is classified as non-attainment for both State and federal standards.
- **Carbon Monoxide: CO.** Tulare County is in attainment/unclassified for both State and federal standards.
- **Nitrogen Dioxide: NO₂.** Tulare County is attainment/unclassified at the federal level and classified attainment at the State level.
- **Sulfur Dioxide: SO₂.** Tulare County is in attainment/unclassified at the federal level, and classified attainment at the State level.
- **Sulfates (no federal standard).** Tulare County is classified attainment at the State level.
- **Lead (no federal designation).** Tulare County is classified attainment at the State level.
- **Hydrogen Sulfide: H₂S (no federal standard).** Unclassified by the State.
- **Visibility Reducing Particles (no federal standard).** Unclassified by the State.

- **Vinyl Chloride (no federal standard).** Tulare County is classified attainment at the State level.⁶

Air Quality Monitoring and Existing Emission Levels

“Geographic areas and air basins are classified for each pollutant as either attainment or non-attainment. In general, “non-attainment” means that the applicable standard has been exceeded anywhere within the air basin... Measured ambient air pollutant concentrations determine the attainment status within an area. There are several ambient air monitoring stations in Tulare County, three of which are located in mountainous areas at Sequoia National Park: Lower Kaweah (measures ozone); Sequoia and Kings Canyon National Park ([SEKI], measures ozone); and Lookout Point at Sequoia National Park (measures ozone). An air monitoring station is also located in a low-lying area of the County in Visalia (North Church Street - measures ozone, PM10, PM2.5, and CO). The air monitoring station at SEKI typically records the highest levels of ozone in Tulare County. According to the National Parks Conservation Association, SEKI ranked number 1 in ground-level ozone production out of all the National Parks in 2004. This ground-level ozone is responsible for hazy conditions that SEKI often experiences. As a result, SEKI does conduct visibility monitoring.” Table 3.3-2 shows ambient air quality data for maximum concentrations of the non-attainment pollutants at each of the air monitoring stations located in Tulare County.

SJVAB Attainment Status

The federal non-attainment designation is subdivided into five categories (listed in order of increasing severity): marginal, moderate, serious, severe, and extreme. The degree of an area’s non-attainment status reflects the extent of the pollution and the expected time period required in order to achieve attainment.

Designated non-attainment areas are generally subject to more stringent review by CARB and EPA. In the endeavor to improve air quality to achieve the standards, projects are subject to more stringent pollution control strategies and requirements for mitigation measures (such as mobile source reduction measures). If the National Ambient Air Quality Standards (NAAQS) are not achieved within the specified timeframe, federal highway funding penalties (and a federally administered implementation plan incorporating potentially harsh measures to achieve the NAAQS) will result. In summary, the attainment status of SJVAB is presented in **Table 3.3-1**.

⁶ Tulare County 2030 General Plan RDEIR. Page 3.3-9

Table 3.3-1⁷
SJVAB Attainment Status

Pollutant	Designation Classification	
	Federal Standards	State Standards
Ozone – one hour	No Federal Standard ¹	Nonattainment/Severe
Ozone – eight hour	Nonattainment/Serious ²	Nonattainment ²
PM ₁₀	Attainment ³	Nonattainment
PM _{2.5}	Nonattainment ⁴	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Vinyl Chloride	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

1 Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. However, EPA had previously classified the SJVAB as extreme nonattainment for this standard. Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

2 On April 30, 2007 the Governing Board of the San Joaquin Valley Air Pollution Control District voted to request EPA to reclassify the San Joaquin Valley Air Basin as extreme nonattainment for the federal 8-hour ozone standards. The California Air Resources Board, on June 14, 2007, approved this request. This request must be forwarded to EPA by the California Air Resources Board and would become effective upon EPA final rulemaking after a notice and comment process; it is not yet in effect.

3 On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM₁₀ National Ambient Air Quality Standard (NAAQS) and approved the PM₁₀ Maintenance Plan.

4 The Valley is designated nonattainment for the 1997 federal PM_{2.5} standards. EPA released final designations for the 2006 PM_{2.5} standards in December 2008 (effective in 2009), designating the Valley as nonattainment for the 2006 PM_{2.5} standards.

Existing Air Quality

Unlike other air basins in California, the pollution in the SJVAB is not produced in large urban areas. Instead emissions are generated over many moderate sized communities. Emission levels in the San Joaquin Valley have generally been decreasing overall since 1990. This can be primarily attributed to motor vehicle emission controls, reducing the amount of vehicle emissions. The main source of carbon monoxide (CO) and nitrogen oxides (NO_x) emissions occurs from motor vehicles. The largest contributor to reactive organic gases (ROG) emissions focuses on the oil and gas production area located in the lower part of the SJVAB, which includes Tulare County. ROG emissions from vehicles have been decreasing since 1985 due to stricter standards even though the vehicle miles have been increasing. Direct PM₁₀ emissions have decreased between the years 1975 and 1995 and have remained relatively constant since 2000. Vehicles traveling on unpaved roads and agricultural activities are a substantial source of

⁷ Air District, 2008, *Ambient Air Quality Standards and Valley Attainment Status*, available at <http://www.valleyair.org/aqinfo/attainment.htm>; accessed June 5, 2009.

PM10 emissions in the SJVAB⁸.

There have been significant improvements in the SJVAB's air quality over the past twenty years due to the design and implementation of effective clean-air strategies. Specifically, in the past two decades, there has been an 80 percent reduction in air pollution from businesses in the SJVAB, there have been the cleanest winters and summers on record, and there have been significant reductions in the number of days with unhealthy air quality. The SJVAB achieved attainment of the PM10 air quality standard and is closer than ever to meeting the stringent new standards for ozone. For example, the SJVAPCD adopted the 2007 PM10 Maintenance Plan in September 2007 to assure the San Joaquin Valley's continued attainment of EPA's PM10 standard⁹.

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. Tables 3.3-2 through 3.3-8 provide the background concentrations for ozone, particulate matter of 10 microns (PM₁₀), particulate matter of less than 2.5 microns (PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO_x), sulfur dioxide (SO₂), and lead (Pb) as of July 2013. Since each monitoring site does not monitor all criteria pollutants information is provided from three separate monitoring sites, Fresno – 1st Street, Visalia – N Church Street and Porterville – 1839 Newcomb St. monitoring stations for 2011 through 2013. No data is available for Hydrogen Sulfide, Vinyl Chloride or other toxic air contaminants in Tulare County or any nearby counties.^{10,11}

**Table 3.3-2
Background Ambient Air Quality Data – Ozone¹¹**

CARB Air Monitoring Station	Number of Days Exceeding 1-Hour CAAQS (0.09 ppm)			Maximum 1-Hour Concentration (ppm)		
	2010	2011	2012	2010	2011	2012
Porterville – 1839 Newcomb St.	15	15	10	0.118	0.104	0.102
Visalia – N. Church St.	15	4	9	0.122	0.119	0.111
NR = Not Reported						

**Table 3.3-3
Background Ambient Air Quality Data – Ozone**

CARB Air Monitoring Station	Number of Days Exceeding 8-Hour NAAQS (0.075 ppm)			Number of Days Exceeding 8-Hour CAAQS (0.07 ppm)			Maximum 8-Hour Concentration (ppm)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012

⁸ Tulare County 2030 General Plan DEIR page 3.3-9 and 10

⁹ Appendix B

¹⁰ Air Quality Impact Analysis, page 8

¹¹ California Air Resources Board Website Data as of July 2012

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Porterville – 1839 Newcomb St.	43	47	44	75	82	80	0.104	0.096	0.092
Visalia – N. Church St.	34	17	37	57	33	60	0.104	0.084	0.094
NR = Not Reported									

**Table 3.3-4
Background Ambient Air Quality Data – PM₁₀**

CARB Air Monitoring Station	Days Exceeding 24-hour NAAQS (150 µg/m ³)			Annual Arithmetic Mean NAAQS (µg/m ³)			Days Exceeding 24-hour CAAQS (50 µg/m ³)			Maximum Concentration (µg/m ³)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
Visalia – N. Church St.	0	0	0	33.8	33.4	37.3	10	11	15	90.8	78.1	75.7

**Table 3.3-5
Background Ambient Air Quality Data – PM_{2.5}¹²**

CARB Air Monitoring Station	Days Exceeding 24-hour NAAQS (35 µg/m ³)			Annual Arithmetic Mean NAAQS (µg/m ³)			Maximum 24-Hour Concentration (µg/m ³)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Visalia – N. Church St.	3	9	7	13.5	16.0	14.7	61.6	73.2	76.2

**Table 3.3-6
Background Ambient Air Quality Data – CO¹³**

CARB Air Monitoring Station	Number of Days Exceeding 8-Hour NAAQS (9.0 ppm)			Number of Days Exceeding 8-Hour CAAQS (9.0 ppm)			Maximum 8-Hour Concentration NAAQS (9.0 ppm) CAAQS (9.0 ppm)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Fresno – 1 st St.	0	0	0	0	0	0	2.03	2.29	2.22

**Table 3.3-7
Background Ambient Air Quality Data – NO_x¹⁴**

CARB Air Monitoring Station	Annual Average (ppm)			Number of Days Exceeding CAAQS (0.03 ppm)			Maximum 1-Hour Concentration CAAQS (0.18 ppm)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Visalia – N. Church St.	0.013	0.012	*	0	0	0	0.077	0.058	0.053

¹² Ibid

¹³ California Air Resources Board Website Data as of July 2012

¹⁴ Ibid

**Table 3.3-8
Background Ambient Air Quality Data – SO_x¹⁵**

CARB Air Monitoring Station	Annual Average NAAQS (0.03 ppm)			Maximum 24-Hour Concentration NAAQS (0.14 ppm) CAAQS (0.04 ppm)		
	2010	2011	2012	2010	2011	2012
Fresno – 1 st St.	0.000	*	*	0.004	*	*

The following is a discussion of the governmentally regulated air pollutants and their recent documented levels in the vicinity of the project area that are expected to be emitted from the construction and operation of the proposed Project:

Ozone (O₃)

The most severe air quality problem in San Joaquin Valley is high concentrations of O₃. High levels of O₃ cause eye irritation, impair respiratory functions, and affect plants and materials. Plants that are particularly vulnerable to O₃ damage are grapes, lettuce, spinach and many types of garden flowers and shrubs. O₃ is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NO_x). Significant O₃ generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O₃ is a regional pollutant because O₃ precursors are transported and diffused by wind concurrently with the reaction process. The data contained in Tables 3.3-1 and 3.3-2 shows that for the 20010 through 2012 period, the project area exceeded the State one-hour average ambient O₃ standard, and the Federal and State eight-hour average ambient O₃ standards.

Suspended Particulate Matter (PM₁₀ and PM_{2.5})

Both state and Federal particulates standards now apply to particulates under 10 microns (PM₁₀) rather than to total suspended particulate (TSP), which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established ambient air quality standards for PM_{2.5}. The Project area is classified as attainment per the EPA for PM₁₀, while non-attainment for the state for PM₁₀. The Project area is classified as non-attainment for PM_{2.5} for both the Federal and State.

The largest sources of PM₁₀ and PM_{2.5} in Tulare County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM₁₀ and PM_{2.5} are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed.

Table 3.3-4 shows that PM₁₀ levels occasionally exceeded the corresponding 24-hour state

¹⁵ Ibid

ambient standard over the three-year period of 2010 through 2012 but did not exceed the Federal ambient standards. Table 3.3-5 shows that a few PM_{2.5} exceedences were recorded over the three-year period of 2010 through 2012 of the Federal 24-hour ambient standards. Similar levels can be expected to occur in the vicinity of the Project site.

Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the valley, CO concentrations may be more uniformly distributed over a broad area. High concentrations of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease, causing fatigue, headaches, and dizziness. Table 3.3-6 shows that CO levels at the Fresno monitoring station are well below the standards for the three-year period of 2010 through 2012; therefore, the vicinity of the project site is expected to be even lower than levels measured in Fresno.

Nitrogen Dioxide (NO₂)

NO₂ is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's nitrogen oxides (NO_x) emissions, most of which is emitted as NO₂. Tulare County has been designated as an attainment/unclassified area for the NAAQS and attainment for the CAAQS for NO₂. In addition, Table 3.3-7 shows that no excesses of the State NO₂ standards have been recorded at the Visalia area-monitoring station investigated over the three-year period of 2010 through 2012.

Sulfur Dioxide (SO₂)

Fuel combustion for oil and gas production and petroleum refining account for nearly all of the county's SO₂ emissions. Tulare County has been designated as an attainment/unclassified area for the NAAQS attainment for the CAAQS for SO₂. Table 3.3-8 shows no exceedence of the more stringent state air quality standard over the three-year period in Fresno.

Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. No ambient Pb levels were taken over the three-year period of 2010 through 2012.¹⁶

¹⁶ Air Quality Impact Analysis, pages 11 to 12

REGULATORY SETTING

Federal Agencies & Regulations

Clean Air Act

“The Federal Clean Air Act (CAA), adopted in 1970 and amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The act directs the Environmental Protection Agency (EPA) to establish ambient air standards, the National Ambient Air Quality Standards (NAAQS)... for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter (less than 10 microns in diameter [PM₁₀] and less than 2.5 microns in diameter [PM_{2.5}]), and sulfur dioxide. The standards are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety and the latter to protect environmental values, such as plant and animal life.

Areas that do not meet the ambient air quality standards are called “non-attainment areas”. The Federal CAA requires each state to submit a State Implementation Plan (SIP) for non-attainment areas. The SIP, which is reviewed and approved by the EPA, must demonstrate how the federal standards will be achieved. Failing to submit a plan or secure approval could lead to the denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. For cases in which the SIP is submitted by the State but fails to demonstrate achievement of the standards, the EPA is directed to prepare a federal implementation plan or EPA can “bump up” the air basin in question to a classification with a later attainment date that allows time for additional reductions needed to demonstrate attainment, as is the case for the San Joaquin Valley.

SIPs are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls. The California SIP relies on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. California State law makes the California Air Resources Board (CARB) the lead agency for all purposes related to the SIP. Local Air Districts and other agencies, such as the Bureau of Automotive Repair and the Department of Pesticide Regulation, prepare SIP elements and submit them to CARB for review and approval. The CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register.”¹⁷

¹⁷ Tulare County 2030 General Plan RDEIR, pages 3.3-1 to 3.3-2

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**Table 3.3-9^{18,19}:
State & National Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	(a) Decrease of pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; (f) Property damage.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO _x) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm ¹	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	---	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration - Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Avg.	---	0.03 ppm		

¹⁸ California Air Resource Board website, <http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm>

¹⁹ California Air Resources Board, 2008a. *Ambient Air Quality Standards*, available at <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> Standards last updated November 17, 2008. California Air Resources Board, 2001. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*, <http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm>, page last updated December 2005.

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Respirable Particulate Matter (PM10)	24 hours	50 mg/m ³	150 mg/m ³	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in PM2.5 levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 mg/m ³	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 mg/m ³		Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.
	Annual Avg.	12 mg/m ³	15 mg/m ³		
Lead	Rolling 3-Month Average NAAQS/Monthly Avg. State	1.5 mg/m ³	0.15 mg/m ³	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction. The more serious effects of lead poisoning include behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs. Lead may also contribute to high blood pressure and heart disease.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 mg/m ³		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Geothermal Power Plants, Petroleum Production and refining
Sulfates	24 hour	25 mg/m ³	No National Standard	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage.	Produced by the reaction in the air of SO ₂ .
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.

ppm = parts per million; mg/m³ = micrograms per cubic meter.

¹ This concentration was approved by the Air Resources Board on April 28, 2005 and became effective May 17, 2006.

State Agencies & Regulations

California Clean Air Act

The California CAA of 1988 establishes an air quality management process that generally parallels the federal process. The California CAA, however, focuses on attainment of the State ambient air quality standards see (Table 3.3-9), which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Responsibility for meeting California's standards is addressed by the CARB and local air pollution control districts (such as the eight county

AIR DISTRICT, which administers air quality regulations for Tulare County). Compliance strategies are presented in district-level air quality attainment plans.

The California Clean Air Act (CAA) requires that Air Districts prepare an air quality attainment plan if the district violates State air quality standards for criteria pollutants including carbon monoxide, sulfur dioxide, nitrogen dioxide, PM_{2.5}, or ozone. Locally prepared attainment plans are not required for areas that violate the State PM₁₀ standards. The California CAA requires that the State air quality standards be met as expeditiously as practicable but does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

The air quality attainment plan requirements established by the California CAA are based on the severity of air pollution caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.²⁰

California Air Resources Board

The CARB is responsible for establishing and reviewing the State ambient air quality standards, compiling the California State Implementation Plan (SIP) and securing approval of that plan from the U.S. EPA. As noted previously, federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop SIPs. SIPs are comprehensive plans that describe how an area will attain NAAQS. The 1990 amendments to the Federal CAA set deadlines for attainment based on the severity of an area's air pollution problem. State law makes CARB the lead agency for all purposes related to the SIP. The California SIP is periodically modified by the CARB to reflect the latest emission inventories, planning documents, and rules and regulations of various air basins. The CARB produces a major part of the SIP for pollution sources that are statewide in scope; however, it relies on the local Air Districts to provide emissions inventory data and additional strategies for sources under their jurisdiction. The SIP consists of the emission standards for vehicular sources and consumer products set by the CARB, and attainment plans adopted by the local air agencies as approved by CARB. The EPA reviews the air quality SIPs to verify conformity with CAA mandates and to ensure that they will achieve air quality goals when implemented. If EPA determines that a SIP is inadequate, it may prepare a Federal Implementation Plan for the nonattainment area, and may impose additional control measures.

In addition to preparation of the SIP, the CARB also regulates mobile emission sources in California, such as construction equipment, trucks, automobiles, and oversees the activities of air quality management districts and air pollution control districts, which are organized at the county or regional level. The local or regional Air Districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their jurisdiction and for preparing the air quality plans that are required under the Federal CAA and California CAA.²¹

²⁰Tulare County 2030 General Plan DEIR . page 3.3-1

²¹ Ibid. pages 3.3-6 to 3.3-7

California Air Resources Board Airborne Toxic Control Measures

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other toxic air contaminants (TACs). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, CARB has established emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the replacement of older, dirtier engines with newer emission controlled models.

Local Regulations and Conditions

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (Air District) is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin portion of Kern.

The Air District is primarily responsible for regulating stationary source emissions within Tulare County and preparing the air quality plans (or portions thereof) for its jurisdiction. The Air District's primary approach of implementing local air quality plans occurs through the adoption of specific rules and regulations. Stationary sources within the jurisdiction are regulated by the Air District's permit authority over such sources and through its review and planning activities. For example, the Air District adopted its Regulation VIII-(Fugitive PM₁₀ Prohibitions), on October 21, 1993 and amended on August 8, 2004 to implement Best Available Control Measures (BACM). This Regulation consists of a series of emission reduction rules consistent with the PM₁₀ Maintenance Plan. The PM₁₀ Maintenance Plan commits the Air District into maintaining its PM₁₀ control measures (including the stringency of Regulation VIII to continue fugitive dust reduction efforts) as a means of maintaining attainment of the federal standards for PM₁₀. Regulation VIII specifically addresses the following activities:

- construction, demolition, excavation, extraction and other earthmoving activities (Rule 8021);
- bulk materials (including handling and storage) (Rule 8031);
- carryout and track-out (Rule 8041);
- open areas (Rule 8051);
- paved and unpaved roads (Rule 8061); and
- Unpaved vehicle/equipment parking (including shipping and receiving, transfer, fueling, and service areas) (Rule 8071).

The Air District has limited authority to regulate transportation sources and indirect sources that attract motor vehicle trips.

- Rule 9510 (Indirect Source Review) requires developers to mitigate project emissions through (1) on-site design features that reduce trips and vehicle miles traveled, (2) controls on other emission sources, and (3) with reductions obtained through the payment of a mitigation fee used to fund off-site air quality mitigation projects. Rule 9510 requires construction related NO_x exhaust emission reductions of 20 percent and PM₁₀ exhaust reductions of 45 percent. Rule 9510 requires a 33 percent reduction in operational NO_x emissions and a 50 percent reduction in PM₁₀. The reductions are calculated by comparing the unmitigated baseline emissions and mitigated emissions from the first year of Project operation. The Air District recommends using the California Emissions Estimator Model (CalEEMOD) to quantify project emissions and emission reductions. However, based on direction provided by the SJVAPCD, the air quality analysis for the proposed Project construction emissions has been estimated using the District's Solar Project Calculator, EMFAC20011, and the Sacramento Metropolitan Air Quality Management District's *Construction Mitigation Calculator Model, Version 6.1.1*. Both modeling software programs are consistent with the San Joaquin Valley Air Pollution Control District (District) Indirect Source Review (ISR) requirements and District policy on CEQA compliance, based on these calculation results, criteria pollutant emissions from Project construction will be discussed in this chapter. Rule 9510 was adopted to reduce the impacts of development on Air District's attainment plans.
- Several District Rules and Plans would be applicable to the proposed Project under the jurisdiction of the San Joaquin Valley APCD. Additionally, several CAA requirements are implemented by the District as part of the SIP. The following list would be applicable to the Project.
 - District State Implementation Plan
 - 2012 PM_{2.5} Plan
 - 2007 8-Hour Ozone Plan
 - 2007 PM₁₀ Maintenance Plan

The Air District's Governing Board has adopted the 2012 PM_{2.5} Plan on December 20, 2012. This plan highlights a variety of measures designed to achieve all the PM_{2.5} standards - the 1997 federal standards, the 2006 federal standards, and the state standard - as soon as possible.²²

The District has published a Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)²³, an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. A major part of the GAMAQI includes a discussion of air quality control measures that are recommended for use in mitigating construction and operation-related impacts. The District has also published Air Quality Guidelines for General Plans, which provides guidance to local officials and staff on developing and implementing local policies and programs to be included in local jurisdictions' general plans.^{24,25}

²² SJVAPCD, http://www.valleyair.org/Air_Quality_Plans/AQ_Proposed_PM25_2008.htm

²³ Guide for Assessing and Mitigation Air Quality Impacts 2002, <http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf>

²⁴ Tulare County 2030 General Plan RDEIR pages 3.3-7 to 3.3-8

PM 2.5 Plan

“The 2012 *PM_{2.5} Plan* established the District’s strategy for attaining the 2006 *PM_{2.5}* standard as expeditiously as possible, and synthesizes the [Air] District’s strategies for improving air quality and public health in the Valley. The [Air District has to] demonstrate attainment of the newest federal standards for fine particulate matter (*PM_{2.5}*) as expeditiously as possible. Through this comprehensive attainment strategy, the Valley will achieve attainment of the federal *PM_{2.5}* standard by 2019... reducing NO_x emissions, the predominant pollutant leading to the formation of *PM_{2.5}*, by 55% over this period. In addition to these much-needed NO_x reductions, the District’s strategy also reduces direct *PM_{2.5}* emissions that not only assist the Valley in attaining the standard as fast as possible, but also reduce the *PM_{2.5}* emissions that pose the greatest health impacts to Valley residents.”²⁶

Tulare County General Plan Policies

“The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

AQ-1.1 Cooperation with Other Agencies

The County shall cooperate with other local, regional, Federal, and State agencies in developing and implementing air quality plans to achieve State and federal Ambient Air Quality Standards. The County shall partner with the Air District, Tulare County Association of Governments (TCAG), and the California Air Resource Board to achieve better air quality conditions locally and regionally.

AQ-1.2 Cooperation with Local Jurisdictions

The County shall participate with cities, surrounding counties, and regional agencies to address cross-jurisdictional transportation and air quality issues.

AQ-1.3 Cumulative Air Quality Impacts

The County shall require development to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Applicants shall be required to propose alternatives as part of the State CEQA process that reduce air emissions and enhance, rather than harm, the environment.

AQ-1.4 Air Quality Land Use Compatibility

The County shall evaluate the compatibility of industrial or other developments which are likely to cause undesirable air pollution with regard to proximity to sensitive land uses, and wind direction and circulation in an effort to alleviate effects upon sensitive receptors.

²⁵ Air Quality Guidelines for General Plans, <http://www.valleyair.org/transportation/Entire-AQGGP.pdf>

²⁶ Air District Web Site, http://www.valleyair.org/air_quality_plans/pm25plans2012_old-122112.htm

AQ-1.5 California Environmental Quality Act (CEQA) Compliance

The County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonably mitigated when feasible.

AQ-1.7 Support Statewide Climate Change Solutions

The County shall monitor and support the efforts of Cal/EPA, CARB, and the AIR DISTRICT, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies. As appropriate, the County will evaluate each new project under the updated General Plan to determine its consistency with the emission reduction strategies.

AQ-1.8 Greenhouse Gas Emissions Reduction Plan/Climate Action Plan

The County will develop a Greenhouse Gas Emissions Reduction Plan (Plan) that identifies greenhouse gas emissions within the County as well as ways to reduce those emissions. The Plan will incorporate the requirements adopted by the California Air Resources Board specific to this issue. In addition, the County will work with the Tulare County Association of Governments and other applicable agencies to include the following key items in the regional planning efforts.

1. Inventory all known, or reasonably discoverable, sources of greenhouse gases in the County,
2. Inventory the greenhouse gas emissions in the most current year available, and those projected for year 2020, and
3. Set a target for the reduction of emissions attributable to the County's discretionary land use decisions and its own internal government operations.

AQ-1.9 Support Off-Site Measures to Reduce Greenhouse Gas Emissions

The County will support and encourage the use of off-site measures or the purchase of carbon offsets to reduce greenhouse gas emissions.

County Responses to Air Quality Conditions

Ozone

"The SJVAB has severe ozone problems. The EPA has required the Air District to demonstrate in a plan, substantiated with modeling, that the ozone NAAQS could be met by the November 15, 2005 deadline. However, the district could not provide this demonstration for several reasons, including that its achievement would require regulation of certain source categories not currently under the jurisdiction of the district. According to the district, in order to meet the standard the SJVAB must reduce the total emissions inventory by an additional 30 percent (300 tons per day). Because attainment by the deadline could not be demonstrated by the mandated deadlines, the federal sanction clock was started. The clock was to be stopped if the Air District SIP could demonstrate compliance with specified federal requirements by November 15, 2005. However, the district recognized that it could not achieve demonstration in time. Therefore, the district,

through petition by the State on behalf of AIR DISTRICT, sought a change in the federal nonattainment classification from “severe” to “extreme” nonattainment with the ozone standard. An extreme nonattainment designation would effectively move the compliance deadline to year 2010 before federal sanctions would begin.

On February 23, 2004, EPA publicly announced its intention to grant the request by the State of California to voluntarily reclassify the SJVAB from a “severe” to an “extreme” 1-hour ozone nonattainment area. The EPA stated that, except for a demonstration of attainment of the ozone standard by 2005, the Air District has submitted all of the required severe area plan requirements and they were deemed complete. The CARB submitted the 2004 Extreme Ozone Attainment Demonstration Plan to EPA on November 15, 2004. On August 21, 2008, the District adopted Clarifications for the 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone, and on October 16, 2008, EPA proposed to approve the District's 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone.

The County continues to evaluate and consider a variety of federal, State, and Air District programs in order to respond to the non-attainment designation for Ozone that the SJVAB has received, and will continue to adopt resolutions to implement these programs. The Tulare County Board of Supervisor resolutions are described below. These resolutions were adopted in 2002 and 2004, respectively.”²⁷

Resolution 2002-0157

Resolution 2002-0157, as adopted on March 5, 2002, requires the County to commit to implementing the Reasonably Available Control Measures included in the Resolution. The following Reasonably Available Control Measures were included in the resolution:

- Increasing transit service to the unincorporated communities of Woodville, Poplar and Cotton Center;
- Purchase of three new buses and installation of additional bicycle racks on buses;
- Public outreach to encourage the use of alternative modes of transportation;
- Providing preferential parking for carpools and vanpools;
- Removing on-street parking and providing bus pullouts in curbs to improve traffic flow;
- Supporting the purchase of hybrid vehicles for the County fleet;
- Mandating that the General Plan 2030 Update implement land use policies supporting public transit and vehicle trip reduction; and
- Programming \$13,264,000 of highway widening projects.

Resolution 2004-0067

As part of a follow up effort to Resolution 2002-0157 and to address the federal reclassification to Extreme non-attainment for ozone, the County of Tulare Board of Supervisors adopted Resolution 2004-067. The resolution contains additional Reasonably Available Control Measures as summarized below:

²⁷ Tulare County 2030 General Plan, pages 9-6 to 9-8

- Encouraging land use patterns which support public transit and alternative modes of transportation;
- Exploring concepts of Livable Communities as they address housing incentives and transportation;
- Consideration of incentives to encourage developments in unincorporated communities that are sensitive to air quality concerns; and
- Exploring ways to enhance van/carpool incentives, alternative work schedules, and other Transportation Demand Management strategies.

PM₁₀

On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM₁₀ NAAQS and approved the PM₁₀ Maintenance Plan. However, prior to this redesignation, Tulare County Board of Supervisors adopted the following resolution (Resolution 2002-0812) on October 29, 2002. Although now designated in attainment of the federal PM₁₀ standard, all requirements included in the Air District PM₁₀ Plan are still in effect. The resolution contains the following Best Available Control Measures (BACMs) to be implemented in order to reduce PM₁₀ emissions in the County:

- Paving or stabilizing of unpaved roads and alleys;
- Paving, vegetating, chemically stabilizing unpaved access points onto paved roads;
- Curbing, paving, or stabilizing shoulders on paved roads;
- Frequent routine sweeping or cleaning of paved roads;
- Intensive street cleaning requirements for industrial paved roads and streets providing access to industrial/ construction sites; and
- Debris removal after wind and rain runoff when blocking roadways.”²⁸

Criteria Pollutants

“For construction impacts, the pollutant of greatest concern to the District is respirable particulate matter (PM₁₀). The Air District recommends that significance be based on a consideration of the control measures to be implemented during project construction). Compliance with Regulation VIII, Rule 8011, and implementation of appropriate mitigation measures to control PM₁₀ emissions are considered by the Air District to be sufficient to render a project’s construction-related impacts less than significant. The Air District GAMAQI contains a list of feasible control measures for construction-related PM₁₀ emissions.”²⁹

The Air District’s GAMAQI also includes significance criteria for evaluating operational-phase emissions from direct and indirect sources associated with a project. Indirect sources include motor vehicle traffic resulting from the project and do not include stationary sources covered under permit with the Air District. For this analysis, the project would be considered to have a significant effect on the environment if it would exceed the following thresholds:

²⁸ Tulare County 2030 General Plan RDEIR, pages 3.3-12 - 3.3-14

²⁹ Tulare County 2030 General Plan DEIR, pages 3.3-15

- Cause a net increase in pollutant emissions of reactive organic gases (ROG) or NO_x exceeding 10 tons per year.
- Cause a violation of State CO concentration standards. The level of significance of CO emissions from mobiles sources is determined by modeling the ambient concentration under project conditions and comparing the resultant 1- and 8-hour concentrations to the respective State CO standards of 20.0 and 9.0 parts per million.
- Cause “visible dust emissions” due to onsite operations and thereby violate Air District Regulation VIII³⁰.

Although the Air District GAMAQI recognizes that PM₁₀ is a major air quality issue in the basin, it does not establish quantitative thresholds for potential impact significance. However, for the purposes of this analysis, a PM₁₀ emission of 15 tons per year from project operations is used as a significance threshold. 15 tons per year is the Air District threshold level at which new stationary sources requiring Air District permits must provide emissions “offsets”. This threshold of significance for PM₁₀ is consistent with the ROG and NO_x thresholds of 10 tons per year, which are also offset thresholds established in Air District Rule 2201³¹.

Toxic Air Contaminants

The operation of any project with the potential to expose sensitive receptors to substantial levels of toxic air contaminants (TAC’s) would be deemed to have a potentially significant impact. More specifically, proposed development projects that have the potential to expose the public to TAC’s in excess of the following thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual³² exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic TAC’s would result in a Hazard Index greater than 1 for the Maximally Exposed Individual.

Application of these standards would typically apply to the preparation of more detailed project-specific health risk assessments (based on a detailed air dispersion modeling effort) that would occur as individual projects are considered under the proposed project. For this programmatic assessment of the proposed Project, the assessment of TAC’s is conducted at a qualitative level with specific policies and implementation measures provided to address the potential impacts associated with this issue.³³

³⁰ Visible dust is defined by the SJVAPCD as “visible dust of such opacity as to obscure an observer’s view to a degree equal to or greater than an opacity of 40 percent, for a period or periods aggregating more than three minutes in any one hour.

³¹ Tulare County 2030 General Plan DEIR, page 3.3-15

³² Maximally Exposed Individual represents the worst-case risk estimate based on a theoretical person continuously exposed for 70 years at the point of highest compound concentration in air.

³³ Tulare County 2030 General Plan RDEIR, pages 3.3-15 – 3.3-16

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) & b) Conflict with or obstruct implementation of the applicable air quality plan and result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

Project Impact Analysis:

Significant and Unavoidable Impacts for Construction

Less than Significant Impacts for Operation

The proposed Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County. The proposed Project will be electrically connected to the California Independent System Operator (CAISO)-controlled grid by upgrading an existing SCE subtransmission line, and by installing new communications lines (fiber optic cables) on the same subtransmission pole-line as well as along a new secondary route. On-site Project components also include overhead power lines, trenching and undergrounding of electrical wiring, and a control-equipment enclosure/operations and maintenance building that would include space for several uses (control equipment housing, shop space, spare parts storage, and future uses to potentially include a worker break area or restroom). The analysis of the proposed

Project includes the off-site upgrading of SCE's existing subtransmission line, installation of fiber optic cables from the Project site to SCE's Vestal substation, construction of on-site overhead power lines (or adjacent to site) to electrically connect the Project substation(s) to a new Southern California Edison switchyard, and construction of a tap line with 6 to 8 new utility poles (on-site) to connect a new SCE switchyard to SCE's existing subtransmission system. The electricity produced by the solar facility will be sold to one of the State's Investor Owned Utilities (IOUs), a municipality, or a CAISO market participant.

The proposed Project site is located within San Joaquin Valley Air Basin (Basin), which is a non-attainment area since the basin does not meet the NAAQS for certain pollutants regulated under the CAA. Nonattainment designations are categorized into seven levels of severity: (1) basic, (2) marginal, (3) moderate, (4) serious, (5) severe-15, (6) severe-17, and (7) extreme.

Based on SJVAPCD Policy APR 2010, CEQA Implementation Policy (March 8, 2010), the SJVAPCD CEQA significance thresholds are as follows:

- NO_x 10 tons/year
- VOC 10 tons/year
- PM₁₀ 15 tons/year
- SO_x 27.4 tons/year

These thresholds apply to both construction and operational emissions associated with a Project.

Based on SJVAPCD Policy APR 2015, Zero Equivalency Policy for Greenhouse Gases, the CEQA significance threshold for greenhouse gases (GHG) is 230 metric tons per year carbon dioxide equivalent (CO₂e). This threshold applies to emissions associated with the operation of a Project.

Consistent with the San Joaquin Valley Air Pollution Control District (District) Indirect Source Review (ISR) requirements and District policy on CEQA compliance, construction emissions have been estimated using the District's Solar Project Calculator, EMFAC2011, and the Sacramento Metropolitan Air Quality Management District's Construction Mitigation Calculator Model, Version 6.1.1. Based on these calculations, criteria pollutant emissions from Project construction are shown in Table 3.3-10 below. The construction emissions associated with the interconnect have been fully analyzed and are included in the construction emissions shown in Table 3.3-10. The proposed Project's construction phase is identified to temporarily exceed the District's thresholds for NO_x levels. The sources of emissions would include heavy equipment usage to excavate and grade the proposed Project area, on-road motor vehicles for equipment and materials deliveries, and construction workers commuting to and from the proposed Project site.

The analysis of the proposed Project includes two phases, facility construction, including interconnections to SCE's existing power grid and fiber optics system, and the operation of the Project. It's anticipated that construction emissions will generally be below applicable significant levels for each pollutant except NO_x. According to the Project's Air Quality & Climate Change

Impact Assessment³⁴, NOx emissions will temporarily exceed the District's threshold for NOx levels during the construction phase. As shown in Table 3.3-10, NOx emissions exceed the CEQA significance threshold of 10 tons per year established by the District. The District ISR requirements under Rule 9510 require construction vehicle exhaust emissions to be mitigated by 20% for NOx.

Table 3.3-10: Construction Emissions (Unmitigated)

Construction Emissions	Pollutants			
	ROG	NOx	SOx	PM10
Threshold of Significance (tpy)	10	10	27.4	15
Un-Mitigated Construction Emissions Totals (tpy)	2.5	38.4	0.07	1.4
Exceed Threshold?	No	Yes	No	No

Proposed Project construction is anticipated to begin sometime in mid-to-late 2013 and last approximately 12 months. The first construction phase is likely to begin upon completion of the environmental review process and County issuance of all necessary grading and construction permits. Off-site construction emissions will be generated from the delivery of construction materials (heavy duty trucks) and construction worker trips. For the worst-case analysis, assuming a single phase 80 MW build-out that lasts 12 months, the proposed Project is estimated to generate approximately 93 delivery and vendor trips and an average of 195 worker trips on a daily basis. On-site construction emissions will be generated by mobile and stationary source equipment used for site preparation, foundations, installation of the PV modules, construction of transmission system interconnection facilities, and paving.

The Air District's ISR requirements under Rule 9510 require construction exhaust emissions for construction equipment greater than fifty (50) horsepower used in associated with the development project be mitigated by 20% for NOx and 45% for PM₁₀ as compared to the California Air Resource Board (CARB) state-wide averages³⁵. The applicant or general contractor may reduce construction related on-site emissions by using less polluting construction equipment which may be achieved by add-on controls, using cleaner fuels, or utilizing new lower emitting machinery equipment. The mitigation measure recommended by the District is the adoption of a "Clean Fleet" to achieve the required NOx and PM₁₀ emission reductions. These mitigation measures would reduce emissions by the required percentages prescribed under the ISR program. The resulting mitigated construction emissions are shown in Table 3.3-11 below.

³⁴ Appendix B

³⁵ Rule 9510- <http://www.valleyair.org/rules/currnrules/r9510.pdf>

Table 3.3-11: Construction Emissions (Mitigated)

Construction Emissions	Pollutants			
	ROG	NO _x	SO _x	PM ₁₀
Threshold of Significance (tpy)	10	10	27.4	15
Mitigated Construction Emissions Totals (tpy)	2.5	30.7	0.07	0.74
Exceed Threshold?	No	Yes	No	No

However, these mitigation measures are specific to the requirements of the ISR process and would not reduce NO_x emissions below the CEQA threshold of significance of 10 tons per year. It should be noted that construction emissions by their very nature are temporary/short-term and impacts would only occur during peak construction periods.

On a permanent basis, the Project's operation will be maintained and manned by a minimal number of employees for day-to-day operation of the proposed Project. The operation of the solar modules would not generate emissions that will exceed the Air District's threshold levels for NO_x, CO, VOC, PM₁₀, or SO_x emissions. Project operational emissions will be primarily generated by employee trips via company or personal vehicle usage, and water hauling for PV panel washing and associated maintenance that will total between 0 and 10 trips per day. As shown on Table 3.3-12, it's anticipated for facility operation to experience various trips related to operational activities in four general categories; Deliveries, Operators, Security, and Water Trucks. Operations related activities are detailed in Table 3.3-12. Rule 9510 - Indirect Source Review also requires operational emission reductions of 33.3 percent NO_x and 50 percent PM₁₀ for 10 years. Air quality analysis indicates the Project's operation will not exceed the Air District's CEQA threshold for operational criteria pollutant emissions. The proposed Project will effectively function to reduce air pollutant emissions within the SJVAB to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the SJVAB. This power production is not projected within the existing air quality plans, and so the solar facility would further aid in reducing air pollutant emissions and increase the potential for attainment of the Ozone Air Quality Maintenance Plan (AQMP)/SIP.

Operational impacts are expected to be less than significant.

**Table 3.3-12
Operational Activities**

OPERATIONAL	Trips Related to Operational (i.e., Maintenance, panel cleaning)			
Vehicle Emission Source:	Delivery	Operator	Security	Water Truck
VEHICLE: number of vehicle per day	1	3	1	1

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VEHICLE : type (eg MDV, HHDT)	HHDT (T7)	LDT (T1)	LDT (T1)	MHDT (T6)
VEHICLE: average gross vehicle weight (lbs)	46,501	1,875	1,875	23,501
VEHICLE: average weight in tons	23.25	0.94	0.94	11.75
OFF SITE VEHICLE SPEED (mph)	55			
ON SITE VEHICLE SPEED (mph)	15			
PER VEHICLE: number of working days per year	48	247	10	80
PER VEHICLE: roundtrip distance (mile)	50	50	50	2.5
PER VEHICLE: distance traveled onsite per day (mile)	1	5	5	48
VEHICLE: Weighted average weight (tons)	3.6	3.0	3.0	23.3

Table 3.3-13, identifies operational emission output results for on-site and off-site facility operations.

**Table 3.3-13
Operational Emissions**

Operational Emissions	Pollutants			
	ROG	NOx	SOx	PM10
Threshold of Significance (tpy)	10	10	27.4	15
Un-Mitigated Operational Emissions Totals (tpy)	0.01	0.08	< 0.01	4.70
Exceed Threshold?	No	No	No	No

GHG emissions from construction activities include carbon dioxide (CO₂) from on-road and off-road construction activities. Using the EMFAC2011 and OFFROAD2011 models, project construction GHG emissions were estimated at 4,984 metric tons/year of carbon dioxide equivalent (CO₂e). Since construction emissions are temporary and CEQA significance thresholds for GHG emissions during construction have not been established, construction GHG emissions are less than significant.

Operational GHG emissions were estimated based on fossil fuel burning activities associated with Tulare Solar Center staff, security, vendor deliveries, and PV panel washing activities. Emissions were quantified based on emissions factors derived from EMFAC2011. CO₂e emissions from operations were estimated to be approximately 21 metric tons per year. This is less than the CEQA significance threshold of 230 metric tons per year of CO₂e as provided in SJVAPCD Policy APR 2015, Zero Equivalency Policy for Greenhouse Gases. Therefore, operation of the project would have a less than significant impact of GHG.

In addition, the 80 MW Tulare Solar Center is a project that is consistent with the CARB AB32 scoping plan and the State's Renewable Portfolio Standard (RPS) which calls for increasing renewable electricity in the State. The intent of the scoping plan was to reduce California GHG emissions in accordance with AB32 goals, and the very nature of the proposed Tulare Solar Center PV solar project would represent improvements above what can be considered "business as usual" (BAU). The proposed project would help reduce the carbon intensity of electricity generated to serve California consumers, and thereby reduce electricity sector GHG emissions as compared to BAU. As reported in the 2011 Intergovernmental Panel on Climate Change (IPCC) Special Report on Renewable Energy Sources and Climate Change Mitigation, a PV Solar project would demonstrate 15-30 times less CO₂e emissions as compared to burning fossil fuels to achieve the same energy outputs. Although the Project would include maintenance activities, emissions from these activities are trivial when compared with conventional fossil-fueled electricity generation technologies and the associated operational GHGs emissions. The reductions in CO₂e emissions per MW of energy produced from this proposed Project would easily outweigh the comparatively small operational GHG impacts.

Cumulative Impact Analysis: ***Significant and Unavoidable Construction Impacts***

Less than Significant Operation Impacts

Construction: The Air District has developed strategies to reduce criteria pollutant emissions outlined in the State Implementation Plan (SIP) pursuant to Federal CAA mandates. As such, individual projects would comply with applicable SJVAPCD rules and requirements, and implement feasible measures. The proposed Project would comply with adopted AQMP emission control measures. Per the CEQA requirement that significant impacts will be mitigated to the extent feasible, these same requirements would also be imposed on construction projects Basin-wide, which would include related projects. The San Joaquin Valley Air Basin has recently witnessed a number of PV Solar Farm projects, all of which are applicable to the same ISR and CEQA requirements specified for this Project. As such, each related project would be evaluated for potential adverse air quality impacts and mitigated as necessary to reduce criteria pollutant emissions pursuant to Rule 9510 and applicable CEQA thresholds. Despite the reductions in impacts on air quality achievable through implementation of these mitigation measures, the cumulative temporary construction impacts on air quality would remain cumulatively significant and unavoidable.

Operation: By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development. Future attainment of state and federal ambient air quality standards is a function of successful implementation of the District's attainment plans. Consequently, the District's application of thresholds of significance for criteria pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. If a project's emissions are less than the thresholds of significance for criteria pollutants the project would not be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the District is in non-attainment under the applicable federal or state ambient air quality standards. As discussed

above, Project operational emissions are below the District's CEQA and ISR thresholds of significance for criteria pollutant emissions. Therefore, Project-related operational emissions would have a less than significant impact on air quality.

Mitigation Measures:

3.3-1 - The construction fleet shall achieve exhaust emission reductions through the prioritized use of newer, cleaner burning equipment during construction. The utilization of cleaner burning equipment shall be documented by the construction team on the District's prescribed detailed fleet form for the Project duration. Exhaust emission reduction calculations after Project build-out shall be based on the actual usage of construction equipment from the detailed fleet records.

Conclusion:

Significant and Unavoidable Construction Impacts

Less than Significant Operation Impacts

The proposed Project will obtain all necessary Air District permits and mitigation measure 3.3-1 will reduce emissions but will not lower NO_x to levels below the threshold of 10 tons/year. Therefore, during construction, the proposed Project will exceed the Air District's thresholds of significance resulting in a significant and unavoidable impact. However, it should be noted that construction-related impacts are temporary and short-term in nature.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Project Impact Analysis:

Significant and Unavoidable Impacts

“State CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would “*violate any air quality standard or contribute substantially to an existing or projected air quality violation*” would be considered to create significant impacts on air quality. Therefore, an air quality impact analysis should determine whether the emissions from a project would cause or contribute significantly to violations of the National (NAAQS) or California Ambient Air Quality Standards (CAAQS) when added to existing ambient concentrations.

As discussed earlier, temporary, short-term construction emissions have the potential to significantly contribute to criteria pollutants as a result of the Project's construction-related activities and interconnection activities to the SCE power system. NO_x impacts associated with construction of the Project and its interconnections would pose a temporary, short-term significant impact. All other criteria pollutant construction-related emissions would be below the District's thresholds of significance, thus impacts to air quality will be less than significant. Operational emissions are also projected to be below the District's thresholds of significance for all criteria pollutants and impacts to air quality will be less than significant. As such, the proposed Project is not expected to interfere with any air quality attainment plans. The Project does not conflict with the implementation strategy of the San Joaquin

Valley State Implementation Plans (2012 PM_{2.5} Plan; 2007 8-Hour Ozone Plan; 2007 PM₁₀ Maintenance Plan).

The proposed Project construction-related emissions would not conflict with or obstruct implementation of the applicable Air District air quality attainment plan. Control measures outlined in the Ozone Plan focus primarily on control of stationary sources and indirect sources (such as housing and commercial developments) that may generate substantial vehicle trips during operations. The primary source of criteria pollutant emissions generated by the proposed Project would be associated with construction-related activities. It is required by regulation that construction of the Project would be subject to the Air District's fugitive dust rule, Regulation VIII, Fugitive PM₁₀ Prohibitions; therefore, the proposed Project would not obstruct implementation of the 2007 PM₁₀ Maintenance Plan. However, the Project will result in a significant impact from temporary, short-term construction-related NOx emissions thereby impacting ozone-related Air Quality Plans and air quality thresholds of significance (unmitigated emissions shown in Table 3.3-10 and mitigated emissions shown in Table 3.3-11).

Proposed Project operations would generate a very small number of vehicle trips associated with commuting workers and other workers that would periodically clean and maintain the panels. Therefore, Project operation would not create a permanent, substantial source of ozone precursor emissions, and would not obstruct implementation of the Air District's 2008 8-Hour Ozone Plan. The 2007 PM₁₀ Maintenance Plan focuses on how the San Joaquin Valley APCD will maintain attainment of the federal 24-hour PM₁₀ standard, which includes the continued implementation of rules that reduce levels of PM₁₀ emissions. This Plan focuses on implementing rules that limit PM₁₀ emissions from various industrial sources as well as fugitive dust emissions³⁶.

As demonstrated in the operational emissions modeling projections, emissions from proposed Project operations will be less than the applicable significance thresholds. Therefore, emissions from Project operations will not exceed state and federal ambient air quality standards and are considered less than significant.

As estimated in the emissions modeling results, the short-term emissions are projected to be less than SJVUAPCD significance threshold levels for construction, for all pollutants except for NOx. With the exception of NOx, short-term emissions from proposed Project construction as calculated by EMFAC would be less than SJVAPCD significance levels. Due to the level of NOx generated by construction, impacts are significant and unavoidable.

³⁶ Appendix B

Cumulative Impact Analysis: ***Significant and Unavoidable Construction Impacts***

Less than Significant Impacts for Operation

The geographic area of this cumulative analysis is San Joaquin Valley Air Basin. This cumulative analysis is based on the information provided in the Air Quality Impact Assessment.

“A review of the Tulare County Resource Management Agency’s files indicates that there are zero (0) Tentative Tracts or other planned developments within a one-mile radius of the proposed project site. Projects that are planned but have not been submitted for review or approved by the county are not included in this analysis as there is no way to know or ascertain what they might consist of. The SJVAPCD requires use of a one-mile radius to identify HAP emissions as well as for most odor sources³⁷. A one-mile limit is recommended by the SJVAPCD for HAPs pollutants as such emissions primarily impact individuals that reside or work within the immediate vicinity (one-mile) of the emissions source.

**Table 3.3-14
2020 Emissions Projections³⁸**

	ROG	NO _x	PM ₁₀
Proposed Project Operations (Mitigated)	0.01	0.05	2.35
Proposed Project Construction (Mitigated)	2.49	30.73	0.74
Tulare County	46,683	12,410	24,637
San Joaquin Valley Air Basin	211,663	119,063	125,888
Proposed Project Percent of Tulare County	< 0.001	< 0.001	0.01
Proposed Project Percent of SJVAB	< 0.001	< 0.001	0.002
Tulare County Percent of SJVAB	22.05	10.42	19.57

Notes: The emission estimates for Tulare County and the SJVAB are based on 2020 projections. The proposed Project emission estimates are for the proposed incremental emissions increase that is not already included in the San Joaquin Valley Air Basin Emissions Inventory. The Project’s emissions are expected to decline as cleaner, less polluting vehicles replace vehicles with higher emissions.

As shown in Table 3.3-14, the proposed Project will result in less than significant impact on regional ozone and PM₁₀ formation based on the Air District’s thresholds of significance. When mitigation measures and compliance with applicable rules (such as the Air District’s Rule 9510 ISR) are accounted for, the regional contribution to these cumulative impacts will further reduced to a level of less than significant. It is reasonable to conclude that the Project is not cumulatively significant with regard to regional impacts.

Mitigation Measures:

None Required

³⁷ SJVAPCD GAMAQI, page 53

³⁸ California Air Resources Board (www.arb.ca.gov/app/emsmv/emssumcat.php)

Conclusion:

Significant and Unavoidable Construction Impacts

Less than Significant Operations Impact

As noted earlier, emissions from proposed Project operations will be less than the applicable significance thresholds levels and the temporary, short-term emissions, for each year of construction, are projected to be less than SJVAPCD's threshold of significance for criteria pollutants except for NOx.

d) Expose sensitive receptors to substantial pollutant concentrations?

Project Impact Analysis: ***Less than Significant Construction and Operational Impacts***

For the purposes of a CEQA analysis, the SJVAPCD considers a sensitive receptor to be a receptor such as residence, chronically ill individuals, hospital, children or adult daycares, or convalescent facilities where it is possible that an individual could remain for 24 hours. Commercial and industrial facilities are not included in the definition of sensitive receptor because employees typically do not remain onsite for a consecutive 24 hour period, but are present for shorter periods of time. For example, employment centers may host individuals on various hourly shifts (such as increments of four hours or complete eight hour periods).

As described in this chapter, the proposed Project is located approximately four miles south of the community of Ducor in an unincorporated area of Tulare County. The proposed Project site historically has been disturbed agricultural lands which are not in proximity of any schools, hospitals, or any facility considered as a sensitive receptors. The nearest sensitive receptors are a few rural residences located near the intersection of State Route 65 and Avenue 24, and near intersection of State Route 65 and Avenue 16 adjacent to the Project boundary. Figures 2-7 and 2-8 identify potential sensitive receptors associated with residential uses nearest to the proposed Project site and the proposed Gen-tie and interconnection location, including the nearest businesses, fire stations and schools outside of a two mile buffer area from the Project site boundary. As illustrated in Figures 2-7 and 2-8, the proposed Project is located in a remote location in southern Tulare County and as such, the proposed Project will have a less than significant impact associated with this checklist item.

The proposed Project is not anticipated to generate Health Risk Impacts and as such, Hazardous air pollutants are not expected to be emitted from the proposed Project. No significant health risk impacts are expected and there will be no impact to this checklist item.

Cumulative Impact Analysis: ***Less than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. This cumulative analysis is based on the information provided in the Air Quality and Climate Change Assessment prepared for the proposed Project³⁹.

There are no sensitive receptors within the proximity of the proposed Project site, the Project's interconnection facilities, or near SCE's Vestal Substation location. Several rural residents are located along State Route 65 near the proposed Project boundary lines. Although there are a minimal number of rural residents near impact areas of the proposed Project, it is anticipated that the proposed Project will not expose sensitive receptors to substantial pollutant concentrations. Therefore, based on the above analysis and projected emissions from the Project construction phase and final operation as identified in Appendix B, there will be a less than significant impact associated with this checklist item.

Mitigation Measures:

None Required.

Conclusion:

Less than Significant Impact

As noted earlier, the proposed Project is anticipated to have a less than significant impact associated to any known sensitive receptors.

e) Create objectionable odors affecting a substantial number of people?

Project Impact Analysis:

Less than Significant Impact

While offensive odors do not cause any physical harm, they can be unpleasant, leading to distress among the general public and generates citizen complaints to local government agencies (such as the Sheriff, Fire or Environmental Health Departments) and the local air district. Any project with the potential to expose members of the public to objectionable odors has the potential to adversely impact the atmosphere (environment). Because of the subjective nature of odor impacts, the number of variables that may influence the potential for an odor impact, and the variety of odor sources; there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Projects should be evaluated on a case-by-case basis to determine if there are anticipated impacts to the environment associated with objectionable odors.

It anticipated the proposed Project's construction-related activities will result in diesel emissions exhaust from construction equipment and activities entering and exiting the construction site which may release odors into the atmosphere. However, construction-related emissions will be temporary and short-term and are not anticipated to affect a substantial number of local property owners as the Project is located in rural areas of Tulare County. Furthermore, the more extensive construction activities will occur within the proposed Project site thus reducing the potential for odors to affect property owners adjacent

³⁹ Appendix B

to the Project site. Due to the nature of proposed Project operations and experience gained by the solar industry from solar PV generating facilities, the Project's permanent operation is not anticipated to release odors into the atmosphere⁴⁰. As such, proposed Project odors would have a less than significant impact.

Cumulative Impact Analysis: ***Less than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. This cumulative analysis is based on the information provided in the Project's Air Quality & Climate Change Impact Assessment.

The proposed Project is located in a remote location in rural areas in Tulare County. Proposed Project construction could potentially generate odors associated with diesel combustion emissions; however, construction-related odors are anticipated to be temporary and short-term. The proposed Project's permanent operation is not anticipated to result in the release of odors into the atmosphere. As such, proposed Project odors will have a less than significant impact

Mitigation Measures:

None Required.

Conclusion: ***Less than Significant Impact***

Due to the nature of proposed Project operations and experience gained from solar PV generating facilities precedents, the proposed Project's permanent operation will not result in the release of odors into the atmosphere. As such, proposed Project odors would have a less than significant impact. In the cumulative, construction odors are anticipated to be temporary and short-term. The Project's permanent operation is not anticipated to result in the release of odors into the environment. As such, proposed Project odors would cumulatively have a less than significant impact.

⁴⁰ Appendix B

REFERENCES

2012 CEQA Guidelines, Section 15126.2 (a)

Rule 9510 Indirect Review, <http://www.valleyair.org/rules/currnrules/r9510.pdf>

Air Quality & Climate Change Impact Assessment for the Tulare Solar Center, Project No. 0172775-090, Environmental Resources Management, May 2013

Guide for Assessing and Mitigating Air Quality Impacts,
<http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf>

Tulare County 2030 General Plan RDEIR (SCH # 2006041162),

Air Quality Impact Analysis, pages 38 to 39

Air District, 2008, *Ambient Air Quality Standards and Valley Attainment Status*, available at <http://www.valleyair.org/aqinfo/attainment.htm>; accessed June 5, 2009.

San Joaquin Valley Air Pollution Control District, Air Quality- Chapter 2,
http://www.valleyair.org/Air_Quality_Plans/docs/final_one_hour_adopted/Chapter%202-ARB%20Final.pdf

California Air Resources Board Website Data as of July 2012

California Air Resource Board website, <http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm>

California Air Resources Board, 2008a. *Ambient Air Quality Standards*, available at <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> Standards last updated November 17, 2008.

California Air Resources Board, 2001. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*, <http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm>, page last updated December 2005

Biological Resources

Chapter 3.4

SUMMARY OF FINDINGS

Impacts on Biological Resources as a result of the proposed Project are determined to be less than significant providing the mitigation measures recommended below are adopted as conditions of approval of the Special Use Permit. Several site visits were conducted and a biological evaluation report of the Tulare Solar Center site was prepared by Environmental Resources Management (ERM) and Garcia and Associates (GANDA). The evaluation in its entirety can be found in Appendix C. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis as follows.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Biological Resources

This section of the Draft Environmental Impact Report (DEIR) for the Project meets CEQA requirements by addressing potential impacts to biological resources on the proposed Project site, which is located in a portion of the San Joaquin Valley in Tulare County. The “Environmental Setting” section provides a description of biological resources in the region, with special emphasis on the proposed Project site and vicinity. The “Regulatory Setting” provides a description of applicable State and local regulatory policies. A description of the potential impacts of the proposed project is also provided and includes the identification of feasible mitigation to avoid or lessen the impacts.

DEFINITIONS

CEQA Guidelines Section 15380 provides definitions for the terms “species,” “endangered,” “threatened” and “rare.”

Endangered, Rare or Threatened Species:

(a) *"Species" as used in this section means a species or subspecies of animal or plant or a variety of plant.*

(b) *A species of animal or plant is:*

(1) *"Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or*

(2) *"Rare" when either:*

(A) *Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or*

(B) *The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.*

ABBREVIATIONS

(DFW)	California Department of Fish and Wildlife
(DPR)	California Department of Parks and Recreation
(CDF)	California Department of Forestry and Fire Protection
(CESA)	California Endangered Species Act
(CSC)	DFW Species of Special Concern
(Cal/EPA)	California Environmental Protection Agency
(ERM)	Environmental Resources Management
(ESA)	Federal Endangered Species Act
(GANDA)	Garcia and Associates
(HCP)	Habitat Conservation Plan
(MBTA)	The Migratory Bird Treaty Act (Federal)
(NCCP)	Natural Communities Conservation Planning Act (DFW)
(PSP)	Tulare County Special Use Permit
(SCE)	Candidate-Endangered Species (DFW)
(SCT)	Candidate-Threatened Species (DFW)
(USACE)	U.S. Army Corps of Engineers
(USFWS)	The U.S. Fish and Wildlife Service

CEQA THRESHOLDS OF SIGNIFICANCE

The geographical area may be either statewide or nationwide, depending on the sensitive status of the species. Standards for listing as federal endangered species are determined by the Federal Endangered Species Act, administered by U.S. Department of Fish and Wildlife. Standards for listing of California special status species (Endangered, Threatened, Candidate Endangered, Candidate Threatened, and Sensitive Species) are administered by the California Department of Fish and Wildlife (DFW). These requirements are described in further detail in the “Regulatory” section of this document.

ENVIRONMENTAL SETTING

Tulare County contains more than 4,840 square miles (3,097,600 acres) within its borders. It is located in a geographically diverse region, which can be divided into three general topographic zones: the San Joaquin Valley region on the west side of the County; the Sierra Nevada foothills region east of the valley area; and the Sierra Nevada mountain region to the east of the foothills.

Elevations range from 200 to 14,000 feet above sea level. The proposed Project is located in the San Joaquin Valley floor portion of the County, which is very fertile and has been intensively cultivated for many decades. Agriculture and related industries such as agricultural packing and shipping operations and small and medium sized manufacturing plants make up the economic base of the Valley region.¹

This area has a Mediterranean climate, with dry, hot summers with daytime temperatures commonly exceeding 90° Fahrenheit. Winters are rainy and cool with daytime temperatures rarely exceeding 65° Fahrenheit. Annual precipitation in the general vicinity of the project site is highly variable from year to year with a mean annual rainfall of approximately 12 inches, most of which falls between the months of October and March. Virtually all precipitation falls in the form of rain.

The native vegetation of the Valley is predominately characterized by the purple needlegrass series, valley oak series, vernal pools and wetland communities, and blue oak series. Fauna associated with this section include mule deer (*Odocoileus hemionus*), black-tailed deer (*Odocoileus hemionus columbianus*), coyotes (*Canis latrans*), white-tailed jackrabbits (*Lepus townsendii*), kangaroo rats (*Dipodomys ingens*), kit fox (*Vulpes macrotis*), and muskrats (*Ondatra zibethicus*). Birds include waterfowl, hawks, golden eagles (*Aquila chrysaetos*), owls, white-tailed kites (*Elanus leucurus*), herons, western meadowlark (*Sturnella neglecta*) and California quail (*Callipepla californica*).²

The Project would be located on historically disturbed agricultural lands in an unincorporated area of Tulare County, California as shown in Appendix C, Figure 1. The proposed Project site is located along SR 65, approximately 3.5 miles north of SR 155 or four miles south of the unincorporated community of Ducor. Porterville Highway (SR65) bisects the Project site in the north to south directions. The site consists of seven parcels: APNs 339-100-07, 339-110-06, 339-110-10, 339-110-16, 339-140-01, 339-140-08, and 339-140-10³.

The site topography ranges from flat to gently sloped, and although APN 339-140-01 contains site improvements (including a farm house, a shop, a storage building, and related servicing utilities), the Project will not impact these improved areas. Rural unpaved roads run adjacent to southern, western and eastern portions of the Project site. A paved highway (Porterville Highway (SR65) bisects the site at the site's east-west mid-point, and a graveled County road (Avenue 24) runs adjacent to the northern portion. The site is bordered by undeveloped lands and agricultural fields⁴.

The proposed Project site consists of undeveloped land that is zoned as Exclusive Agricultural (AE-40) and designated as Rural Valley Lands under the Tulare County General Plan, and is designated as Farmland of Local Importance by the California Farmland Mapping and Monitoring Program (FMMP). The solar panels will be on land that is mostly used for non-irrigated (dryland) small grain farming (i.e., wheat and barley), with the exception of one small parcel (APN 339-110-16) that contains an abandoned and dead vineyard. Other agricultural land

¹ Tulare County General Plan 2030 Update, Background Report, February 2010, pages 1-4

² Ibid, pages 9-10

³ Appendix C, page 3

⁴ Ibid

uses in the area includes grazing cattle, sheep and horses, and kiwi, grapes, almonds, and citrus. Williamson Act contracts apply to the Project site. The proposed Project is consistent with Section 16 of Ordinance 352, as amended, allowing solar PV electric generating facilities within agricultural zoned lands, subject to a Special Use Permit and Developer Agreement⁵.

The proposed Project site is located in the Great Valley geomorphic province. The Great Valley province is an alluvial plain in the central portion of California, where sediments have been deposited almost continuously since the Jurassic Period (California Geological Survey [CGS] 2002)⁶.

Multiple field investigations were conducted for the Tulare Solar Center site by ERM and GANDA. Field investigations occurred on November 30, 2011, March 23, 2012, March 26, 2012, and May 22, 2012. Results of the field survey and database searches were summarized in the ERM report, “Biological Survey Report, Tulare Solar Center Project, Tulare County, California” (Biological Report or Report), which can be found in Appendix C.⁷ The Report contains a survey of the proposed Project site and vicinity for biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law. The Report noted that the majority of the Project site where solar panels are proposed is currently used for agricultural purposes and it is unlikely that special-status species, (that is, rare plant species or rare animal species) are present in these areas. Most of the proposed utility alignments would occur along the shoulders of rural roads, which are composed primarily of ruderal species (see Section 5.2, of Appendix C, for a description of habitats and Figure 2-9 for proposed utility alignment) and have a low potential of containing special-status species. However, areas that are not heavily tilled and replanted or influenced by weedy roadside species (e.g., the pasture lands west of SR 65 along which the fiber optic lines and t-line upgrade alignments are proposed), could contain Threatened or Endangered species. The field investigation specifically for wetlands included a wetlands reconnaissance survey.⁸

REGULATORY SETTING

Applicable Federal, State, and Local regulations specific to biological resources are described as follows. The following environmental regulatory settings were summarized, in part, from information contained in the *Tulare County General Plan 2010 Background Report*.

Federal Agencies & Regulations

Federal Endangered Species Act

“The U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (16 USC Section 153 et seq.) and thereby has jurisdiction over federally listed threatened, endangered, and proposed species. Projects that may result in a “take” of a listed species or critical habitat must consult with the USFWS. “Take” is broadly defined as harassment, harm, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collection; any attempt to

⁵ Appendix C, page 3.

⁶ Ibid.

⁷ Ibid, page 10

⁸ Ibid, page 11

engage in such conduct; or destruction of habitat that prevents an endangered species from recovering (16 USC 1532, 50 CFR 17.3). Federal agencies that propose, fund, or must issue a permit for a project that may affect a listed species or critical habitat are required to consult with the USFWS under Section 7 of the Federal Endangered Species Act. If it is determined that a federally listed species or critical habitat may be adversely affected by the federal action, the USFWS will issue a “Biological Opinion” to the federal agency that describes minimization and avoidance measures that must be implemented as part of the federal action. Projects that do not have a federal nexus must apply for a take permit under Section 10 of the Act. Section 10 of the Act requires that the project applicant prepare a habitat conservation plan as part of the permit application (16 USC 1539).”⁹

“Under Section 4 of the Federal Endangered Species Act, a species can be removed, or delisted, from the list of threatened and endangered species. Delisting is a formal action made by the USFWS and is the result of a determined successful recovery of a species. This action requires posts in the federal registry and a public comment period before a final determination is made by the USFWS.”¹⁰

Habitat Conservation Plans

“Habitat Conservation Plans (HCPs) are required for a non-federal entity that has requested a take permit of a federal listed species or critical habitat under Section 10 of the Endangered Species Act. HCPs are designed to offset harmful effects of a proposed project on federally listed species. These plans are utilized to achieve long-term biological and regulatory goals. Implementation of HCPs allows development and projects to occur while providing conservation measures that protect federally listed species or their critical habitat and offset the incidental take of a proposed project. HCPs substantially reduce the burden of the Endangered Species Act on small landowners by providing efficient mechanisms for compliance with the ESA, thereby distributing the economic and logistic effects of compliance. A broad range of landowner activities can be legally protected under these plans (County of Tulare, 2010 Background Report, pages 9-6 and 9-7, 2010a). There are generally two types of HCPs, project specific HCPs which typically protect a few species and have a short duration and multi-species HCPs which typically cover the development of a larger area and have a longer duration.”¹¹

There are two habitat conservation plans that apply in Tulare County: The Kern Water Habitat Conservation Plan, which applies to an area in Allensworth; and the U.S. Fish and Wildlife’s “The Recovery Plan for Upland Species in the San Joaquin Valley,” which includes sensitive species in the San Joaquin Valley, several of which may be found in Tulare County.

Migratory Bird Treaty and Bald and Golden Eagle Protection Act

“The Migratory Bird Treaty Act (MBTA, 16 USC Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668) protect certain species of birds from direct “take”. The MBTA protects migrant bird species from take by setting hunting limits and seasons and protecting occupied nests and eggs. The Bald and Golden Eagle Protection Act (16 USC Sections 668-668d)

⁹ Tulare County General Plan 2030 Update, Recirculated Draft EIR, February 2010, page, 3.11-1.

¹⁰ Ibid

¹¹ Ibid, page, 3.11-2

prohibits the take or commerce of any part of Bald and Golden Eagles. The USFWS administers both acts, and reviews federal agency actions that may affect species protected by the acts.”¹²

Clean Water Act - Section 404

“Wetlands and other waters of the U.S. are subject to the jurisdiction of the U.S. Army Corp of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) under Section 404 of the Clean Water Act (33 U.S.C. 1251 et seq., 1972). Together, the EPA and the USACE determine whether they have jurisdiction over the non-navigable tributaries that are not relatively permanent based on a fact-specific analysis to determine if there is a significant nexus. These non-navigable tributaries include wetlands adjacent to non-navigable tributaries that are not relatively permanent and wetlands adjacent to but that does not directly abut a relatively permanent non-navigable tributary.”¹³

“Wet areas that are not regulated by this Act do not have a hydrologic link to other waters of the U.S., either through surface or subsurface flow and include ditches that drain uplands, swales or other erosional features. The USACE has the authority to issue a permit for any discharge, fill, or dredge of wetlands on a case-by-case basis, or by a general permit. General permits are handled through a Nationwide Permit (NWP) process. These permits allow specific activities that generally create minimal environmental effects. Projects that qualify under the NWP program must fulfill several general and specific conditions under each applicable NWP. If a proposed project cannot meet the conditions of each applicable NWP, an individual permit would likely be required from the USACE.”¹⁴

State Agencies & Regulations

California Department of Fish and Wildlife (formerly Dept. of Fish and Game)

The California Department of Fish and Wildlife (DFW) regulates the modification of the bed, bank, or channel of a waterway under Sections 1601-1607 of the California Fish and Game Code. Also included are modifications that divert, obstruct, or change the natural flow of a waterway. Any party who proposes an activity that may modify a feature regulated by the Fish and Game Code must notify DFW before project construction. DFW will then determine whether the Project applicant must enter into a Streambed Alteration Agreement through the authority of Section 1601 (for public entities) or Section 1603 (for private entities) of the Fish and Game Code.

California Endangered Species Act

DFW administers the California Endangered Species Act of 1984 (Fish and Game Code Section 2080), which regulates the listing and “take” of endangered and threatened State-listed species. A “take” may be permitted by California Department of Fish and Wildlife through implementing a management agreement. “Take” is defined by the California Endangered Species Act as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” a State-listed

¹² Ibid, page 3.11-2

¹³ Tulare County General Plan 2030 Update, Recirculated Draft EIR, February 2010, pages. 3.11-1, 3.11-2.

¹⁴ Ibid.

species (Fish and Game Code Sec. 86). Under California Fish and Wildlife Code Section 101-108 and CEQA Guidelines 15386(a), DFW is empowered to review projects for their potential impacts to State-listed species and their habitats (

The DFW maintains lists for Candidate-Endangered Species (SCE) and Candidate-Threatened Species (SCT). California candidate species are afforded the same level of protection as State-listed species. California also designates Species of Special Concern (CSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future. The CSC list is intended for use by DFW as a management tool for consideration in future land use decisions (Fish and Game Code Section 2080).¹⁵

All State lead agencies must consult with DFW under the California Endangered Species Act when a proposed project may affect State-listed species. DFW determines if a project under review would jeopardize or result in taking of a State-listed species, or destroy or adversely modify its essential habitat, also known as a “jeopardy finding” (Fish and Game Code Sec. 2090). For projects where DFW has made a jeopardy finding, DFW must specify reasonable and prudent alternatives to the proposed project to the State lead agency (Fish and Game Code Sec. 2090 et seq.).¹⁶

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act allows a process for developing natural community conservation plans (NCCPs) under DFW direction. NCCPs allow for regional protection of wildlife diversity, while allowing compatible development. DFW may permit takings of State-listed species whose conservation and management are provided in a NCCP, once a NCCP is prepared (Fish and Game Code Sec. 2800 et seq.).¹⁷

Federally and State-Protected Lands

Ownership of California’s wild lands is divided primarily between federal, state, and private entities. State-owned land is managed under the leadership of the Departments of Fish and Wildlife (DFW), Parks and Recreation, and Forestry and Fire Protection (CDF). Tulare County has protected lands in the form of wildlife refuges, national parks, and other lands that have large limitations on appropriate land uses. Some areas are created to protect special status species and their ecosystems.¹⁸

California Wetlands Conservation Policy

The California Wetlands Conservation Policy’s goal is to establish a policy framework and strategy that will ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California. Additionally, the policy

¹⁵ Tulare County General Plan 2030 Update, Recirculated Draft EIR, February 2010, pages 3.11-3

¹⁶ Ibid, page 9-8

¹⁷ Ibid

¹⁸ Ibid

aims to reduce procedural complexity in the administration of State and federal wetlands conservation programs and to encourage partnerships with a primary focus on landowner incentive programs and cooperative planning efforts. These objectives are achieved through three policy means: statewide policy initiatives, three geographically based regional strategies in which wetland programs can be implemented, and creation of interagency wetlands task force to direct and coordinate administration and implementation of the policy. Leading agencies include the Resources Agency and the California Environmental Protection Agency (Cal/EPA) in cooperation with Business, Transportation and Housing Agency, Department of Flood and Agriculture, Trade and Commerce Agency, Governor's Office of Planning and Research, Department of Fish and Wildlife, Department of Water Resources, and the State Water Resources Control Board.¹⁹

Birds of Prey

California Fish and Game Code Section 3503 prohibits the taking and possession of native birds' nests and eggs from all forms of needless take. California Fish and Game Code Section 3503.5 provides that it is unlawful to take, possess, or destroy any birds in the orders *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulations adopted pursuant thereto. For these regulations, resource agencies typically consider "nests" to be active nests (nests with eggs or chicks). Destruction of inactive nests is generally not considered "take."²⁰

Special Status Species

"Special-status species" includes all species that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as threatened or endangered, but designated as "rare" or "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations, or policies adopted by local agencies such as counties, cities, and special districts to meet local conservation objectives.²¹ The California Native Plant Society (CNPS) is an organization in California that assists with the regulation and protection of native plants. The CNPS keeps lists of plants that may not be endangered enough for listing with the CESA or ESA, but are nearing that point. CNPS listed species are not protected under ESA or CESA unless they are a listed species; however, the CFW requires a consultation if CNPS special status plants may be impacted by a Project.²²

Sensitive Species Significance Criteria

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the

¹⁹ Tulare County General Plan 2030 Update, Recirculated Draft EIR, February 2010, page 9-9

²⁰ Appendix C, page 6-7

²¹ Ibid, page 11

²² Ibid, page 6

project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest.”²³

Specific project impacts to biological resources may be considered “significant” if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make “mandatory findings of significance” if the project has the potential to:

“Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

CEQA Statute Section 21083.4. Counties; Conversion of Oak Woodlands; Mitigation Alternatives:

(a) “For purposes of this section, “oak” means a native tree species in the genus Quercus, not designated as Group A or Group B commercial species pursuant to

²³ CEQA Guidelines Section 15382

regulations adopted by the State Board of Forestry and Fire Protection pursuant to Section 4526, and that is 5 inches or more in diameter at breast height.”

(b) “ ...a county shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect to oak woodlands, the county shall require one or more of the...[listed] oak woodlands mitigation alternatives...”

Local Policy & Regulations

Tulare County General Plan Policies

“The preservation of sensitive habitats is a key goal of the General Plan 2030 Update, with ERM-1 Goal “To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the County.” The General Plan Update includes a number of policies in the Environmental Resources Management Element which support this goal. Key policies that are relevant to the proposed Project include ERM-1.1, 1.2, 1.4, 1.6, 1.7, 1.16 and 1.17.²⁴

ERM-1.1 Protection of Rare and Endangered Species

The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

ERM-1.2 Development in Environmentally Sensitive Areas

The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

ERM-1.4 Protect Riparian Areas

The County shall protect riparian areas through habitat preservation, designation as open space or recreational land uses, bank stabilization, and development controls.

ERM-1.6 Management of Wetlands

The County shall support the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats.

ERM-1.7 Planting of Native Vegetation

The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native

²⁴ Tulare County General Plan 2030 Update, Goals and Policies Report, page 8-9

vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

ERM-1.12 Management of Oak Woodland Communities

The County shall support the conservation and management of oak woodland communities and their habitats.

ERM-1.16 Cooperate with Wildlife Agencies

The County shall cooperate with State and federal wildlife agencies to address linkages between habitat areas.

ERM-1.17 Conservation Plan Coordination

The County shall coordinate with local, State, and federal habitat conservation planning efforts (including Section 10 Habitat Conservation Plan) to protect critical habitat areas that support endangered species and other special-status species.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Project Impact Analysis:

Less than Significant Impact with Mitigation

Existing Site Conditions

During the biological surveys conducted by ERM and GANDA biologists on November 30, 2011, March 23, 2012, March 26, 2012, and May 22, 2012, they did not observe any special-status species²⁵. The majority of the Project site where solar panels are proposed is currently used for agricultural purposes and it is unlikely that the rare plant species or rare animal species exist in these areas. Most of the proposed utility alignments would occur along the shoulders of rural roads, which are composed primarily of ruderal species and have a low potential of containing special-status species. However, areas that are not heavily tilled and replanted or influenced by weedy roadside species (e.g., the pasture lands west of SR 65 along where the fiber optic lines and subtransmission line upgrade alignments are proposed),

²⁵ Appendix C

could contain Threatened or Endangered species. The field investigation specifically for wetlands included a wetlands reconnaissance.²⁶

Existing or Potential On-Site Species and Special Status Species

Multiple field investigations by qualified biologists were conducted for the Tulare Solar Center Project. The dates and results are as follows:

- 30 November 2011, Wednesday - ERM biologists visited the Project site at the beginning of the wet season, when temperatures were approximately 44° F, and few plants were flowering. ERM completed the biological assessment within the footprint of the proposed Project site plus an approximate 50-foot buffer around Project features (such as access roads and utility line corridors) through a combination of walking transects and using 10x42 binoculars that allowed for 100 percent (%) visual coverage. Observations of habitat types, flora and fauna were noted and photographed. This November site visit did not occur during an active time of year for the San Joaquin kit fox or during the nesting bird season.²⁷
- 23 March 2012, Friday - ERM biologists visited the site when temperatures were approximately 67° F, to investigate a cluster of burrows that Southern California Edison (SCE) biologists identified as being potential habitat for burrowing owls (*Athene cunicularia*) or San Joaquin kit fox (*Vulpes macrotis mutica*). From the Vestal Substation there is a fence that heads south and parallel to County Route J35 for a few hundred feet, and then turns west – the cluster of burrows is near the corner where the fence turns west. In addition, SCE noted a number of burrows along the berm on the east side of the dirt road that heads north-south approximately 4,000 feet east of County Route J35 (i.e., County Road 224), where fiber optic cables are proposed; ERM biologists also surveyed this berm. This survey occurred at the beginning of the nesting bird season, but prior to the most active season for San Joaquin kit fox which begins in May.²⁸
- 26 March 2012, Monday - Garcia and Associates' (GANDA) botanist Mark Bibbo conducted a rare plant survey for the San Joaquin adobe sunburst (*Pseudobahia peirsonii*) on either side of County Route J35 near the Vestal Substation where there is an historic record for this species²⁹. This survey was conducted during the flowering period for the San Joaquin adobe sunburst. Although this species was observed in full bloom at a nearby location, the adobe sunburst was not observed to be present at the historic record location near the Vestal Substation.³⁰
- 22 May 2012, Tuesday - ERM biologist Dana Ostfeld conducted a final site visit to survey an additional four APNs totaling 495 acres of land that were added to the Project site (see Appendix C, Figure 1 or 2 for “Additional PV Parcels”) after the

²⁶ Appendix C, page 11

²⁷ Appendix C, page 10

²⁸ Ibid

²⁹ Ibid

³⁰ Ibid

previous surveys were conducted, and to resurvey those sites identified by SCE as being potentially biologically sensitive for special-status species and sensitive vegetation communities (previously surveyed on 23 March 2012). The weather was sunny and in the upper 70's.³¹

Potential for Tulare Solar Center Project Site Special Status Species

The ERM report identified potential special status species which may occur onsite or in the Project vicinity, listed in Table 1 of the report, reproduced below.³² Sources of information used in their desktop research included: *California Natural Diversity Database, Endangered and Threatened Wildlife and Plants, Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants*, and *The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California*.³³

Based on the desktop research results, ERM identified 14 special-status species that were listed as having records in or near the project area, and evaluated as to having a potential to occur on the Project site. A map of The California Natural Diversity Database query (CNDDDB) and the Sacramento USFWS Species List database (Figure 3.4-1) shows published accounts for all relevant special status plant and animal species for the Richgrove USGS 7.5 minute quadrangle (where the Project occurs), and for eight surrounding quadrangles. While several special status species have been observed within ten miles of the Project site, only one species occurrence is within the Project site- the San Joaquin adobe sunburst³⁴. The CNDDDB record for the San Joaquin adobe sunburst is based on a collection made in 1965. During subsequent visits to the site in 1974, 1990, and 2010, it was documented that the landscape was wholly converted to agriculture and no plants were observed here since the original collection; therefore, CDFW concluded that this population is likely extirpated³⁵.

³¹ Appendix C, p. 10

³² Ibid, pages 15-18.

³³ Ibid, page 18

³⁴ Appendix C, p. 19

³⁵ Ibid, p.19

San Joaquin
kit fox

San Joaquin
sunburst

San Joaquin
kit fox



Table 3.4-1 lists all special status species that could occur in the Project vicinity and on the proposed Project site. These include four special status plant species. Two plant species are listed as threatened or endangered under the State or Federal Endangered Species Act: California Jewel-Flower (*Caulanthus californicus*) and San Joaquin Adobe Sunburst (*Pseudobahia peirsonii*). Two additional special status species are listed by the CNPS: Recurved Larkspur (*Delphinium recurvatum*), and the Calico monkeyflower (*Mimulus pictus*). The required habitat for all of listed species were evaluated and it was determined that the habitat on the proposed Project site is unsuitable for all of the special status plants.³⁶

Ten special status animal species that could occur in the Project vicinity are also listed in Table 3.4-1. Nine of these are species listed as threatened or endangered under the State and/or Federal Endangered Species Act. These are: Tipton kangaroo rat (*Dipodomys nitratoides natratoides*), San Joaquin kit fox (*Vulpes macrotis mutica*), Vernal pool fairy shrimp (*Branchinecta lynchi*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Delta smelt (*Hypomesus transpacificus*), California red-legged frog (*Rana draytonii*), Blunt-Nosed Leopard Lizard (*Gambelia sila*), Giant garter snake (*Thamnophis gigas*), and California condor (*Gymnogyps californianus*). The Project site provides unsuitable habitat for all of the above species with the exception of the San Joaquin kit fox, which is listed as having a “Moderate” potential for occurrence on the Project site, based on the lack of habitat throughout most of the Project site due to regular discing and a lack of burrows³⁷. However the San Joaquin kit fox may inhabit grazed, non-irrigated grasslands, and also live next to and forage in tilled or fallow fields, irrigated row crops, orchards, and vineyards, and this type of habitat is present at the Project site. It is also important to note that the recorded CNDDDB sightings are all from the 1970’s.³⁸

One additional animal species that is listed as a State Species of Special Concern and that could potentially occur in the project vicinity is the Burrowing Owl (*Athene cunicularia*). The Burrowing Owl is listed as “Moderate” for occurrence on the Project site. Although no burrowing owls were observed in the Project site there are burrows in some areas that are suitable in size for this species. However, the nearest CNDDDB record for this species is a 2007 occurrence approximately 3.5 miles northeast of the proposed Project site.³⁹

³⁶ Appendix C page. 15-18

³⁷ Ibid

³⁸ Ibid

³⁹ Ibid

Table 3.4-1
SPECIAL STATUS SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT VICINITY

Common Name <i>Scientific Name</i>	Status (Federal/State/ CNPS)	Habitat Requirements	Potential for Occurrence in Project area
Species Listed or Proposed for Listing			
Plants			
California jewel-flower <i>Caulanthus californicus</i>	FE/CE/1B.1	Sandy soils, within chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland.	Low. There is a historic CNDDDB record of this species approximately 1.5 miles northwest of the Project site, but CDFG reports that this occurrence is presumed extirpated. Habitat for this species no longer occurs at the Project site.
San Joaquin adobe sunburst <i>Pseudobahia peirsonii</i>	FT/CE/1B.1	Cismontane woodland, and valley and foothill grassland.	Low. Habitat no longer occurs at this Project site. There is an historic record for this species along Route J35 near the Vestal Substation, but surveys conducted for this species in March 2012 failed to detect this species, and this species is presumed extirpated from the area.
Mammals			
Tipton kangaroo rat <i>Dinodomys nitratooides nitratooides</i>	FE/CE	Inhabits alkali desert scrub habitat and herbaceous habitat, with level or nearly level terrain, which is not subject to flooding. Burrows are often in slightly elevated mounds, berms of roads, canal embankments, and railroad beds.	Low. Nearest CNDDDB record is over 10 miles west of the Project site. Habitat in the Project site is generally poor quality for this species.

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Common Name <i>Scientific Name</i>	Status (Federal/State/ CNPS)	Habitat Requirements	Potential for Occurrence in Project area
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE/CT	Chenopod scrub, grasslands, sometimes forages in agricultural areas.	Moderate. CNDDDB records for this species surround the Project site, but they are almost all records from the 1970s. While this species historically occurred in the area, their habitat has been drastically reduced by urbanization and agriculture. Nevertheless, the San Joaquin kit fox may inhabit grazed, non-irrigated grasslands, and also live next to and forage in tilled or fallow fields, irrigated row crops, orchards, and vineyards, and this type of habitat is present at the Project site.
Invertebrates			
Vernal pool fairy shrip <i>Branchinecta lynchi</i>	FT/ --	Vernal pools in the grasslands of California.	Low. Nearest CNDDDB record is approximately 3 miles north of the Project site. No vernal pools within the Project site.

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Common Name <i>Scientific Name</i>	Status (Federal/State/ CNPS)	Habitat Requirements	Potential for Occurrence in Project area
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/ --	Occurs only in the California Central Valley in association with blue elderberry (<i>Samucus mexicana</i>); eggs laid in 1" plus diameter elderberry trees with a preference shown for "stressed" plants.	Low. No blue elderberry observed within or near the Project site.
Fish			
Delta smelt <i>Hypomesus transpacificus</i>	FT/CE	Sacramento-San Joaquin Province, permanent streams with fishes.	Low. No nearby records for this species.
Amphibians			
California red-legged frog <i>Rana draytonii</i>	FT/CSC	Breed in stock ponds, pools, and slow-moving streams with emergent vegetation for escape cover and egg attachment.	Low. No suitable pools of water with emergent vegetation were observed within the proposed cable alignment.
Reptiles			
Blunt-nose leopard lizard <i>Gambelia sila</i>	FE/CE	San Joaquin Valley region in expansive, arid areas with scattered vegetation. They are absent from areas with steep slopes and dense vegetation, and areas subject to seasonal flooding.	Low. No nearby CNDDDB records for this species. Habitat in the Project Area is generally unsuitable for this species.
Giant garter snake <i>Thamnophis gigas</i>	FT/CT	Inhabits marshes, sloughs, ponds, small lakes, low gradient streams, and other waterways and agricultural wetlands, such as irrigation and drainage canals.	Low. No suitable habitat for this species occurs in the Project site, and there are no nearby CNDDDB records for this species.

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Common Name <i>Scientific Name</i>	Status (Federal/State/ CNPS)	Habitat Requirements	Potential for Occurrence in Project area
Birds			
California condor <i>Gymnogyps californianus</i>	FE/CE	Large areas of remote country for foraging, roosting, and nesting. Condors roost on large trees or snags, or on isolated rocky outcrops and cliffs.	Low. The Project site is absent of large trees and snags for roosting and nesting.
Federal or State Species of Special Concern			
Plants			
Recurved larkspur <i>Delphinium recurvatum</i>	--/ -- / 1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grassland.	Low. The nearest CNDDDB record is approximately 1.5 miles south of the proposed Tulare Solar site, but this record is over 50 years old. There is currently no suitable habitat for this species in the Project site.
Calico monkey flower <i>Mimulus pictus</i>	--/ --/ 1B.2	Granitic, disturbed areas in broadleaved upland forest and cismontane woodland.	Low. Nearest CNDDDB record is 2.5 miles southeast of the proposed Tulare Solar site. No suitable habitat occurs in the Project site.
Birds			

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Common Name <i>Scientific Name</i>	Status (Federal/State/ CNPS)	Habitat Requirements	Potential for Occurrence in Project area
Burrowing owl <i>Athene cunicularia</i>	--/ CSC	Open, dry grasslands, deserts, and sometimes ruderal areas along levees. Nests in burrows	Moderate. CNDDDB records for this species is a 2007 occurrence approximately 3.5 miles northeast of the Project site, although most known burrowing owl occurrences in Tulare County are on the southwest side of Tulare County, and not the southeastern portion of the County where the Project site is located. No burrowing owls were observed in the Project site; however there are burrows in some areas that are suitable in size for this species.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate for Listing	WL	Watch List
		CSC	California Species of Special Concern

CNPS	California Native Plant Society Listing
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
1B.1	Seriously threatened in California
1B.2	Rare, threatened, or endangered in California and elsewhere; fairly threatened in California
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
2.2	Rare, threatened, or endangered in California, not elsewhere; fairly threatened in California
2.3	Rare, threatened, or endangered in California, not elsewhere; not very threatened in California

The proposed Project site is situated in a remote location in south central Tulare County. During the biological survey, the proposed Project site was identified not to be suitable for endangered or special status species due to the site's periodical dry farming operations. However, the biological survey for the proposed Project does not completely preclude the opportunity for special status species from accessing or traveling through the site prior or post construction phases. There are several records of special status species in the vicinity of the proposed Project site. Although most date from 1975 and none are current, there is opportunity for species to reoccur through area. While habitat in the area is highly disturbed from agricultural activities, San Joaquin kit fox or burrowing owl may inhabit grazed, non-irrigated grasslands, and or also live next to and forage in tilled or fallow fields, irrigated row crops, orchards, and vineyards⁴⁰. Impacts to sensitive species could be potentially significant; however, the impacts will be mitigated to less than significant with the implementation of Mitigation Measures xxx through xxx below.

Cumulative Impact Analysis:

Less than Significant Impact with Mitigation

The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, sensitive species with similar habitat requirements may exist in other portions of the San Joaquin Valley, and therefore cumulative impacts would extend beyond Tulare County political boundaries.

The methodology used to analyze potential impacts on sensitive species in the Project area included a reconnaissance-level field survey and several database and literature searches providing site-specific information related to existing biological resources. Based on the disturbed condition of the majority of the site, reasonable inferences were made that it was unlikely that any of the sensitive species listed would actually occur onsite. However, the proposed Project's biologist survey does not preclude the opportunity for special status species from accessing or traveling through the site prior or post construction phases. Historically, there have been several records of special status species in the vicinity of the proposed Project site. Although most date from 1975 and none are current, there is slight opportunity for special status species to reoccur through the area. Being that there's opportunity for special status species to travel through the proposed Project site, the biological survey included a summary of all state and federal natural resource protection laws that might be relevant to biological impacts of the proposed Project, within the context of CEQA. Potential impacts could result in significant impacts; however, implementation of the following mitigation measures would reduce the Project's potential impacts to less than significant.

The proposed Project will only contribute to cumulative impacts related to this checklist item if project specific impacts were to occur. With the implementation of the listed mitigation measures cumulative impacts would also be reduced to a less than significant impact.

Mitigation Measures:

⁴⁰ Appendix C, page 15

- 3.4-1. *San Joaquin kit fox surveys.*** A qualified biologist shall conduct surveys for the San Joaquin kit fox within 200 feet of areas with potential kit fox habitat (marked with orange polygons on Figure 3 of Appendix C). These surveys should occur between 14 and 30 days prior to the start of construction activities, in accordance with the January 2011, USFWS' *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance*⁴¹. Surveys should identify kit fox habitat features on the site and evaluate use by kit fox, and if possible, assess the potential impacts to the kit fox by the proposed Project. The status of all dens shall be determined and mapped. Written results of the pre-construction/pre-activity surveys must be received by the USFWS within five days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the Project site or within 200-feet of the Project boundary, the USFWS shall be notified immediately. If the pre-construction/pre-activity survey reveals an active natal pupping, the applicant shall contact the USFWS immediately to obtain the necessary take authorization/permit.
- 3.4-2.** Pre-construction/ Pre-activity shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Surveys should identify kit fox habitat features on the Project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped. Written results of pre-construction/pre-activity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.
- 3.4-3.** Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible.
- 3.4-4.** If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the pre-construction/pre-activity survey reveals an active natal pupping or new information, the Project applicant should contact the Service immediately to obtain the necessary take authorization/permit.
- 3.4-5.** Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period.
- 3.4-6.** If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as

⁴¹ U.S. Fish and Wildlife Service Standardized Recommendations for Protecting of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

described above should be resumed. Destruction of the den may be completed when, in the judgment of the qualified biologist, the animal has escaped without further disturbance from the partially destroyed den.

- 3.4-7.** Project-related vehicles should observe a daytime speed limit not to exceed 20-mph throughout the site in all Project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
- 3.4-8.** To prevent inadvertent entrapment of kit fox or other animals during the construction phase of the Project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the USFWS and the California Department of Fish and Wildlife (CFW) shall be contacted as noted under measure 3.4-16 referenced below.
- 3.4-9.** Kit fox are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit fox before the pipe is used or moved, buried, or capped in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the CFW has been consulted. If necessary, and under the direct supervision of a qualified biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
- 3.4-10.** All food-related trash outside of the enclosed facility such as wrappers, cans, bottles, and food scraps shall be disposed of daily in securely closed containers and removed at least once a week during both construction and operational phases.
- 3.4-11.** No pets, such as dogs or cats, shall be allowed on the Project site in order to prevent harassment, mortality of kit fox, or destruction of dens.
- 3.4-12.** Use of rodenticides and herbicides in Project areas shall be restricted. If rodent control must be used it shall be limited to the use of zinc phosphide because of its demonstrated lower risk to kit fox.
- 3.4-13.** A representative shall be appointed by the Project Applicant to serve as the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their

name, telephone number, or other pertinent contact information shall be provided to the Service.

- 3.4-14.** An employee education program shall be conducted to alert employees of potential impacts to kit fox or other species of concern. The program shall consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program shall include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during Project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site.
- 3.4-15.** Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. shall be re-contoured if necessary, and re-vegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be re-vegetated. Appropriate methods and plant species used to re-vegetate such areas shall be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.
- 3.4-16.** In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.
- 3.4-17.** Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. The Sacramento Fish and Wildlife Office and CFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The current CFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
- 3.4-18.** New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

3.4-19. Burrowing owl surveys. As recommended by CFW⁴², and in accordance with CDFG's 2012 *Staff Report on Burrowing Owl Mitigation*, a qualified biologist shall conduct three surveys for burrowing owls where potential burrowing owl habitat occurs within 500 feet of Project activities (i.e., areas marked with orange polygons on Figure 3 of Appendix C). Surveys shall occur during the peak breeding season for this species (15 April through 15 July), and spaced three weeks apart. If active burrowing owl burrows are identified within 500 feet of the Project site, then avoidance, take avoidance surveys, site surveillance, minimization, and buffer mitigation measures shall be implemented, in accordance with the 2012 CDFG *Staff Report* and direct consultation with CFW.

3.4-20. Nesting bird surveys. If Project construction activities occur within the nesting bird season (i.e., 15 February through 31 August), a visual nesting bird survey by a qualified biologist shall be conducted within two weeks prior to construction of all overhead power line structures/facilities, grasslands, and trees within 500 feet of proposed activities. If an active nest of a special status bird species is encountered, the nest shall not be disturbed until chicks have fledged or otherwise abandoned their nest, which could be for several weeks. In addition, CFW shall be consulted to determine a suitable avoidance buffer around the active nest.

Conclusion:

Less than Significant Impact with Mitigation

With implementation of the above mitigation measures no loss of habitat or direct impact to these special status animals will occur. Any impacts would be less than significant.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?**

Project Impact Analysis:

No Impact

Riparian habitat is absent from the impact areas of the proposed Project⁴³. An unnamed perennial small stream runs through the site but does not have any riparian habitat associated with it. Agricultural lands constitute the majority of the types of habitat on the site and are not considered habitats of special concern. These habitats are not of significant importance to regional wildlife populations.

⁴² Lori Bono, CDFG, pers comm, 5 April 2012

⁴³ Appendix C

The USFWS Recovery Plan for Upland Species of the San Joaquin Valley (1998) includes several sensitive species that may occur in Tulare County.⁴⁴ A few of these are also listed in Table 3.4-1 including one sensitive plant species (California Jewel Flower) and three animal species (San Joaquin Kit Fox, Tipton Kangaroo Rat, and Blunt-Nosed Leopard Lizard). Table 3.4-1 notes that while these species could potentially exist in the proposed Project vicinity; however, it is unlikely based on the disturbed condition of the majority of the site.

Because riparian and other habitats of special concern are absent, future proposed Project construction-related activities will have no impact on these habitats.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, sensitive species with similar habitat requirements may exist in other portions of the San Joaquin Valley; and therefore, cumulative impacts will extend beyond Tulare County political boundaries.

Potential impacts on sensitive species and their habitats, including riparian habitats, have been analyzed. A reconnaissance-level field survey was conducted as were several database and literature searches which provided site-specific information related to existing biological resources. Based on the disturbed site condition, reasonable inferences were made by the qualified biologist that the site did not provide riparian or other sensitive natural habitats. A summary of all state and federal natural resource protection laws that might be relevant to biological impacts of the proposed Project, within the context of CEQA, can be found in Appendix C.

The proposed Project will only contribute to cumulative impacts related to this checklist item if project specific impacts to sensitive habitats were to occur. As the proposed Project does not result in loss of habitat of known species, no Project-related or cumulative impacts will occur as a result of Project implementation.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

No riparian or other sensitive habitats occur on or adjacent to the proposed Project site. No mitigation measures are necessary.

- c) **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Project Impact Analysis: *Less than Significant Impact with Mitigation*

⁴⁴ USFWS Recovery Plan pages 27, 54, 106, 113, 122

Wetlands are determined based on the presence of three indicator parameters -- hydrophytic vegetation, wetland hydrology, and hydric soils -- in accordance with the Routine Determination Method outlined in the *United States Army Corps of Engineers Wetland Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0*. All three indicators must be present for an area to be considered a wetland.⁴⁵

Based on historical aerial photograph imagery, a small stream formerly traversed through the southern portion of APN 339-140-01, 339-140-08, and 339-140-10. It is clear that this stream no longer conveys water through the proposed PV parcels, as much of it has been plowed under and is used for agricultural purposes. Remnants of this former stream were observed in one small area near the central portion of APN 339-140-10, where there was a slight depression that could potentially hold water. Plants present here included Bermuda grass (*Cynodon dactylon*), cocklebur (*Xanthium strumarium*), and dallis grass (*Paspalum dilatatum*). These plants are not indicative of wetlands, based on the *National List of Plant Species That Occur in Wetlands: 1988 National Summary and 1993 Regional Supplement* (National List). Since all three indicators must be present for an area to be considered a wetland, no further investigation of the soil was warranted.⁴⁶

There are signs that at one time there was ponded water in an area approximately 10 feet wide and 30 feet long that is immediately north of an old culvert, on the west side of County Route J35 (Richgrove Drive), and towards the south end of the proposed secondary fiber optic alignment. Signs of previous ponded water here include a slight depression, a change in vegetation, and cracked soil. However, it appears that water has not flowed from this culvert and into this previous wetland area in some time, which is likely because of the currently empty reservoir to the west of the culvert. While a wetland may have once occurred here, it does not appear that this area currently receives much water to sustain any wetland qualities (i.e., wetland plants, soil, and hydrology). Whether or not this potential wetland has the plant, soil, and hydrology characteristics to be considered a wetland by the Corps it is not relevant, because this area is isolated and therefore not under the Corps jurisdiction. However, this area still has the potential to be deemed by the Central Valley Regional Water Quality Control Board (CVRWQCB) as a wetland. Any potential impacts to the area described would require a RWQCB discharge permit approval. Impacts to the potential wetland have the potential to be significant; however, implementation of Mitigation Measure xxxx below would reduce any impacts to less than significant.⁴⁷

Cumulative Impact Analysis:

Less than Significant Impact with Mitigation

The geographic area of this cumulative analysis is the western U.S. While the study area is limited to Tulare County, federally protected wetlands exist in other portions of the U.S., and therefore, cumulative impacts will extend beyond County of Tulare political/jurisdictional boundaries.

⁴⁵ Appendix C, page 12

⁴⁶ Ibid

⁴⁷ Appendix C, page 12

Potential impacts on federally protected wetlands were analyzed, including marshes and vernal pools. A reconnaissance-level field survey was conducted and several database and literature searches that provide site-specific information related to existing biological resources were examined. The only potential on-site aquatic and wetland area is immediately north of an old culvert (on the west side of County Route J35 (Richgrove Drive)) and towards the south end of the proposed secondary fiber optic alignment. The potential wetland area would be regulated by the (CVRWQCB) and should it be impacted, a discharge permit would be required.⁴⁸

The proposed Project will only contribute to cumulative impacts related to this checklist item if project specific impacts were to occur. With the implementation of the listed mitigation measures cumulative impacts will be reduced to a less than significant impact.

Mitigation Measures:

3.4-21. A formal wetlands delineation shall be prepared by a qualified wetland consultant and submitted to the Regional Water Quality Control Board for verification to confirm the extent of jurisdictional wetlands and other waters on the Project site. A Section 401 Certification shall be obtained from the Regional Water Quality Control Board where waters of the US are directly affected by the Project. Conditions required as a part of the authorization by the RWQCB shall be implemented as part of the Project.

Conclusion:

Less than Significant with Mitigation

The implementation of the above Mitigation Measure will reduce impacts to possible wetlands as determined by CVRWQCB to a less than significant level.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Project Impact Analysis:

Less than Significant Impact

Wildlife movement corridors usually occur where there are relatively large areas of open space composed of undeveloped habitat, ideally native habitat. Smaller, notable wildlife movement corridors include creeks and riparian areas. One creek historically ran west-east through the southern portion of the proposed Project area, and may have been a good wildlife movement corridor at one time, but this creek has been converted to agricultural land and is no longer present. A majority of the proposed Project site is agricultural land, and it is surrounded by more agricultural land while agricultural land may be attractive to wildlife as movement corridor in otherwise urban, developed landscapes, there is nothing at this Project site or its immediate vicinity, that would make it more attractive as a wildlife movement corridor than adjacent parcels; land mammals moving north-south through the area most likely stay further east of the Project site, in the contiguous, native, undeveloped habitat.

⁴⁸ Appendix C, page 12

Furthermore, the California Wilderness Coalition has identified important wildlife movement linkages throughout the state, but none within the Project area.⁴⁹ As such, any impacts would be less than significant.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, corridors for fish and wildlife species with similar habitat requirements may exist in other portions of the San Joaquin Valley; and therefore, cumulative impacts will extend beyond County of Tulare political/jurisdictional boundaries.

Potential impacts on habitats for sensitive species, including riparian and wildlife corridors were analyzed. Reconnaissance-level field surveys were conducted and several database and literature searches that provide site-specific information related to existing biological resources were examined. While agricultural land may be attractive to wildlife as movement corridor in otherwise urban, developed landscapes, there is nothing at this Project site that would make it more attractive as a wildlife movement corridor than adjacent parcels; land mammals moving north-south through the area most likely stay further east of the Project site, in the contiguous, native, undeveloped habitat.⁵⁰ Appendix C includes a summary of all state and federal natural resource protection laws that might be relevant to biological impacts of the proposed Project, within the context of CEQA.

There are no fish or wildlife corridors onsite, and therefore any cumulative impacts will be less than significant.

Mitigation Measures:

None Required.

Conclusion: *Less than Significant Impact*

Because the proposed Project will not result in harmful effects on regional fish or wildlife movements, any impacts will be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Project Impact Analysis: *No Impact*

The proposed Project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances. No trees occur on the site and those adjacent to the residence and outbuildings will not be affected. Therefore there will be no impact.

Cumulative Impact Analysis: *No Impact*

⁴⁹ Appendix C, page 23

⁵⁰ Appendix C, page 23

The geographic area of this cumulative analysis is Tulare County.

Local policies relating to impacts on biological resources have been summarized (see above). There are no impacts to any local policies or ordinances protecting biological resources, therefore there would be no cumulative impact

Mitigation Measures:

None Required.

Conclusion:

No Impact

There are no project related or cumulative impacts, and therefore no mitigation measures are required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Project Impact Analysis:

No Impact

There are two habitat conservation plans that could apply in Tulare County. The Kern Water Habitat Conservation Plan only applies to an area in Allensworth and the Project site is not subject to this plan. The Recovery Plan for Upland Species in the San Joaquin Valley outlines a number of species that are important to the San Joaquin Valley. None of these species were identified within the impact areas of the Project. As such, no project-specific impacts related to this impact area would occur. As such, the proposed Project will not conflict with any approved habitat conservation plans, natural community conservation plans, or regional or state habitat conservation plans. Therefore, the proposed Project will have no impact.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is California.

A summary of state, regional and local habitat conservation plans was included in the “Regulatory Setting” section, above.

There are no adopted Habitat Conservation Plans, which relate to the Project site and its immediate vicinity. Therefore, there is no cumulative impact because the proposed Project site is not subject to an HCP or other local, regional or state habitat conservation plan.

Mitigation Measures:

None Required.

Conclusion:

No Impact

There are no project related or cumulative impacts; and therefore, no mitigation measures are required.

REFERENCES

Tulare County General Plan 2030 Update, Background Report, February 2010

Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162).

Biology Survey Report, Tulare Solar Center, Project No. 0141599, Environmental Resources Management, June 2012

Phase I Environmental Site Assessment, AEC Project No. 12-131SD, Advantage Environmental Consultants, LLC, October 2012

2012 CEQA Guidelines, Section 15382

U.S. Fish and Wildlife Service Standardized Recommendations for Protecting of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance,
http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

USFWS Recovery Plan, pages 27, 54, 106, 113, 122

Cultural Resources

Chapter 3.5

SUMMARY OF FINDINGS

Impacts on Cultural Resources as a result of the proposed Project are determined to be less than significant providing the mitigation measures recommended below are adopted as conditions of approval of the Special Use Permit. A Cultural Resource Survey Report conducted by AMEC Environment and Infrastructure Resources, Inc. discovered and documented four cultural resources on the proposed Project site. A Cultural Resource Records Search conducted by RSO Consulting Group identified one cultural resource located within ½ mile of the Tulare Solar Center location. Both resource studies are included as Appendix D. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis as follows.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Cultural Resources

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Cultural Resources. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

Several CEQA statutes and guidelines address requirements for cultural resources, including historic and archaeological resources.¹ If a proposed Project may cause a substantial adverse effect on the significance of a historical resource, then the Project may be considered to have a significant effect on the environment, and the impacts must be evaluated under CEQA (Section 21084.1). The definition of “historical resources” is included in Section 15064.5 of CEQA Guidelines, and includes both historical and archaeological resources. “Substantial adverse change” is defined as “physical demolition, destruction, relocation, or alteration of the resource...”

Section 15064.5 also provides guidelines when there is a probable likelihood of Native American remains existing in the Project site. Provisions for the accidental discovery of historical or unique archaeological resources accidentally discovered during construction include a recommendation for evaluation by a qualified archaeologist, with followup as necessary.

Public Resources Code Section 5097.5 prohibits excavation or removal of any “vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands.”

¹ CEQA & Historical Resources, *CEQA Technical Advice Series*, <http://ceres.ca.gov/ceqa/more/tas/page3.html>.

This section of the DEIR for the Tulare Solar Center Project meets CEQA requirements by addressing potential impacts to cultural resources on the proposed Project site. The “Environmental Setting” section provides a description of cultural resources in the region, with special emphasis on the proposed Project site and vicinity. The “Regulatory Setting” section provides a description of applicable State and local regulatory policies. Results of cultural resources field study and reports from CHRIS are included. A description of potential impacts is provided, along with feasible mitigation measures to reduce the impacts to less than significant.

ABBREVIATIONS

(AMEC)	AMEC Environmental and Infrastructure, Inc
(CHRIS)	California Historic Resources Information System
(CRHR)	California Register of Historical Resources
(HABS/HAER)	Historic American Building Survey/Historic American Engineering Record
(NAHC)	The Native American Heritage Commission
(NHM)	Natural History Museum
(NHPA)	National Historic Preservation Act of 1966
(NRHR)	National Register of Historical Resources
(OHP)	California State Office of Historic Preservation
(SHPO)	State Historic Preservation Officers

CEQA THRESHOLDS OF SIGNIFICANCE

Under CEQA Guidelines Section 15064.5. (b) “A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

- (1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
- (2) The significance of an historical resource is materially impaired when a project:
 - (A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
 - (B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.
- (3) Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource.
- (4) A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.
- (5) When a project will affect state-owned historical resources, as described in Public Resources Code Section 5024, and the lead agency is a state agency, the lead agency shall consult with the State Historic Preservation Officer as provided in Public Resources Code Section 5024.5. Consultation should be coordinated in a timely fashion with the preparation of environmental documents.”²

ENVIRONMENTAL SETTING

(Note to reader: The following Environmental Setting has been excerpted from the Cultural Resources Survey Report prepared by AMEC Environmental and Infrastructure, Inc. Please refer to Appendix E for the complete study.)

Cultural Background

It is believed that Native American groups have occupied the lake country of the San Joaquin Valley for at least the last 12,000 years. Although few sites of that age have been identified thus far, the most notable of these is the Witt site on the western shore of Tulare Lake (Fenenga 1993). Many of the earliest sites have been significantly damaged by agricultural practices in the past century (Sutton, personal communication 2006). Below is a general characterization of the Holocene prehistory of the San Joaquin Valley, utilizing the taxonomic system first proposed by Beardsley (1954a, 1954b) and detailed by Moratto (1984:181-183).

Archaeological evidence from the Early Horizon (8,000 to 4,000 B.P.) suggests that people were generally nomadic with their subsistence being based on large game hunting and fishing. Common artifacts found at sites from this period include hand-molded baked clay net weights, *Olivella* and *Haliotis* shell beads and heavy stemmed projectile points.

² CEQA Guidelines Section 15064.5

The Middle Horizon (4,000 to 1,500 B.P.) is characterized by a more diversified subsistence, with some evidence of an increasing emphasis on seed processing, along with hunting, fowling, and fishing. Artifacts from this period include *Haliotis* shell ornaments in varied geometric shapes, *Olivella* and *Haliotis* beads, distinctive spindle-shaped charmstones, cobble mortars, chisel-ended pestles, and large, heavy projectile points. Bone tools were extensively utilized for tools, such as for awls, fish spear tips, saws, and pressure flakers (used in the manufacture of flaked-stone implements such as projectile points).

In the Later Horizon (1,500 B.P. to Historic Contact), evidence suggests that subsistence strategies were increasingly focused on the processing of plant foods, with less emphasis on hunting, fowling, and fishing. Artifacts include *Olivella* beads, *Haliotis* ornaments, stone beads and cylinders, clamshell disk beads, tubular smoking pipes of stone, arrow-shaft straighteners, small side-notched projectile points, flat-bottomed mortars, and carefully crafted cylindrical pestles.

Ethnography

The project area is located in the southern San Joaquin Valley. According to ethnographic data the project area is located in the core territorial boundary of the Southern Valley Yokuts. The Yokuts have been the subject of considerable study by numerous researchers, including Kroeber (1925), Gifford and Schneck (1926, 1929), Gayton (1948), Powers (1976), Latta (1977), and Wallace (1978). The following discussion draws primarily from these sources.

The Yokuts have been separated into three geographical divisions: Northern Valley, Southern Valley and Foothill. There were at least 40 Yokuts tribes. Each tribe has a distinctive name, dialect, and territory. Their tribes could be organized into single, large village settlements or consist of smaller settlements grouped together. Each group was self-governed and some groups numbered as many as 350 people. Every village had a captain and a central chief (these titles were hereditary). The captain reported to the chief.

The easy availability of resources, such as fish, waterfowl, shellfish, roots, and seeds, enabled the Yokuts to occupy permanent villages most of the year. They practiced a subsistence strategy that emphasized fishing, fowling, and the collection of shellfish, roots, and seeds. Fish provided their primary food resource and were generally caught by netting. Agriculture seems not to have been practiced by the Yokuts, possibly due to the abundance of game animals and plant resources (Beals 1974:45).

History

In 1772, European contact with the Southern Valley Yokuts was first recorded when a detachment of Spanish soldiers under the command of Pedro Fages ventured through the Tejon Pass into the San Joaquin Valley. No further contact is indicated until Father Garces, a Franciscan friar, arrived in 1776. With the annexation of California by the United States, the San Joaquin Valley was overrun with settlers, and native lands passed into Euro American hands.

The Spanish presence in the region played a part in the dispersal of native populations from the foothills and depopulation of entire villages (Cook 1955:55-56). Indigenous population in the region was severely reduced by European diseases introduced by the Spanish explorers. This process of disposition proved relatively easy as the settlers, sometimes forcibly, removed Indian families and communities (Wallace 1978:469). The few surviving Southern Valley Yokuts were sent to the Tejon reservation established at the base of the Tehachapi Mountains, or to the Fresno reservation near Madera. These reservations failed to prosper, and in 1859, the Native Americans who remained on them were moved to the Tule River reservation.

Prior to the Gold Rush, the study area was devoted to grazing and hunting, as immense herds of cattle and some horses roamed the valley. The California gold rush created a deluge of miners and prospectors into the region. Wagon trails and gold seekers passed through the region, but some found the land rich and remained to establish farms. The first store, in what is now Porterville, was setup in 1856 to sell goods to miners and the Indians who lived along the rivers. In 1860, Royal Porter Putnam, bought 40 acres of land and subdivided them into town lots. By 1864, Putnam had built a two-story building that housed a store, hotel, and bar (Winckel 2002:4).

As with most valley towns, the great flood of 1861-62 had a tremendous impact on the early history of Porterville. Prior to the flood, the Tule River followed the course of the current Porter Slough up to the Third Street, where it turned north for about a mile, then west with Henderson Avenue forming its northern bank (Winckel 2002:4). As the Tule River changed its course many of the inhabitants of the area found themselves far from a regular flow of water. This situation was further compounded after a severe drought conditions in the summer of 1862. As a result, small companies were organized to dig canals and ditches with diversions on the Tule River. In 1864, Putnam John Murray and rancher named John Hockett organized a ditch company to divert water from the river to Porterville and then on to Hockett's Ranch for irrigation. Water from the irrigation ditch provided the town of Porterville with its only water supply. One of the ditches used for this purpose was the Pioneer Ditch, which was constructed in 1857 using Yokuts labor.

By 1872, Porterville had several stores, a hotel and saloon and a blacksmith shop (Small 1926:461). In 1888, the Southern Pacific Railroad had constructed rail service to a small station in the growing community. For farmers, the railroad meant that their crops could now be shipped to both northern and southern markets and agricultural communities like Richgrove and Ducor thrived during this time. Orange groves begun to appear in the area and by 1892 numerous parcels contained orchards were planted with citrus and grapes.

Following years of experimentation with the distribution and generation of alternating current, hydroelectric power was used to illuminate most of the southern California. In 1908 the Tule River Hydro Project was started by the Globe Power Company along the Tule River. The Globe Power Co. was subsequently acquired by Mt. Whitney Power and in 1913 Henry Huntington's Pacific Light & Power (PL&P) took over Mt. Whitney Power and merged with SCE in 1917. The early 12 kV distribution voltage most likely served early agricultural needs (Taylor, personal communication 2008). In subsequent years, construction of electric distribution lines helped bring power to agricultural communities in the southern San Joaquin Valley.

Existing Site Conditions

Archaeological investigations were conducted by AMEC Environmental and Infrastructure, Inc. and consisted of a records search conducted at the Southern San Joaquin Valley Archaeological Information Center (SSJVAIC) in Bakersfield, as well as an intensive pedestrian survey of the entire Project site, including the off-site improvement areas. . Additionally, a sacred file search letter was submitted to the NAHC in Sacramento, as well as a request for a paleontological records search for the entire Project Area.

The survey of the proposed Project Area resulted in the identification of four new historic resources. The new resources consisted of remains of a water tank structure, portion of the Big Creek No. 3 transmission line, one telegraph/telephone line segment, and an undocumented portion of the Southern Pacific Railroad between Famoso and Porterville. No additional resources were observed during the course of the study.

New sites and previously documented sites were recorded and updated on California Department of Parks and Recreation Historical Resource Record forms (series DPR 523 1/95), including Primary and/or Archaeological Site Record forms appropriate for all such resources. Recordation adhered to the *Instructions for Recording Historical Resources* (OHP 1995).

REGULATORY SETTING

Federal Agencies & Regulations

The National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) established federal regulations for the purpose of protecting significant cultural resources. The legislation established the National Register of Historic Places and the National Historic Landmarks Program. It mandated the establishment of the State Historic Preservation Office (SHPO), responsible for implementing statewide historic preservation programs in each state. A key aspect of SHPO responsibilities include surveying, evaluating and nominating significant historic buildings, sites, structures, districts and objects to the National Register. The NHPA also established requirements federal agencies to consider the effects of proposed federal projects on historic properties (Section 106, NHPA). Federal agencies and recipients of federal funding are required to initiate consultation with the State Historic Preservation Officer (SHPO) as part of the Section 106 review process.³

State Agencies & Regulations

California State Office of Historic Preservation (OHP)

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), appointed by the

³ Advisory Council on Historic Preservation, <http://www.achp.gov/nrcriteria.html>, Updated March 11, 2008.

governor, and the State Historical Resources Commission, a nine-member state review board appointed by the governor.⁴

Among OHP's responsibilities are to identify, evaluate, and register historic properties; and ensuring compliance with federal and state regulations. The OHP administers the State Register of Historical Resources and maintains the California Historical Resources Information System (CHRIS) database. The CHRIS database includes statewide Historical Resources Inventory (HRI) database. The records are maintained and managed under contract by eleven independent regional Information Centers. Tulare, Fresno, Kern, Kings and Madera counties are served by the Southern San Joaquin Valley Historical Resources Information Center (Center), located in Bakersfield, CA. The Center provides information on known historic and cultural resources to governments, institutions and individuals.⁵

A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important to our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.⁶

CEQA Guidelines: Historical Resources Definition

CEQA Guidelines Section 15064.5(a) defines a historical resource as:

- “(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4850 et seq.).
- (2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript which a lead

⁴ Advisory Council on Historic Preservation, State Historic Preservation Officers, <http://www.achp.gov/shpo.html>. Updated Feb. 24, 2009.

⁵ California State Parks, Office of Historic Preservation, *About OHP*, http://ohp.parks.ca.gov/?page_id=1066.

⁶ California State Parks, Office of Historic Preservation, *California Register: Criteria for Designation*, http://www.ohp.parks.ca.gov/?page_id=21238.

agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4852) including the following:

- (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - (B) Is associated with the lives of persons important in our past;
 - (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - (D) Has yielded, or may be likely to yield, information important in prehistory or history.
- (4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.”⁷

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.

- “(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).
- (2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
- (3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public

⁷ CEQA Guidelines Section 15064.5

Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

- (4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.”⁸

CEQA Guidelines: Human Remains

Public Resources Code Sections 5097.94 and 5097.98 provide guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the Native American Heritage Commission:

“When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

- (1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).
 - (2) The requirements of CEQA.
- (e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:
- (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
 - (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
 - (B) If the coroner determines the remains to be Native American:
 1. The coroner shall contact the Native American Heritage Commission within 24 hours.
 2. The Native American Heritage Commission shall identify the

⁸ CEQA Guidelines Section 15064.5

person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or

- (2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
 - (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
 - (B) The descendant identified fails to make a recommendation; or
 - (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.
- (f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.”⁹

Paleontological Resources

Public Resources Code Section 5097.5 prohibits excavation or removal of any “vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands.”

Local Policy & Regulations

Tulare County General Plan Policies

⁹ CEQA Guidelines Section 15064.5

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed as follows:

ERM-6.2 Protection of Resources with Potential State or Federal Designations

The County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources. Such sites may be of Statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values as determined by a qualified archaeological professional.

ERM-6.3 Alteration of Sites with Identified Cultural Resources

When planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and mitigation measures proposed for any impacts the development may have on the resource.

ERM-6.4 Mitigation

If preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

- a) **Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?**

Project Impact Analysis:

Less than Significant Impact with Mitigation

The first resource identified is the abandoned water/irrigation tank that has only the four concrete footings still remaining. Based on the current Project description the resource will be destroyed by the construction and installation of the PV solar facility. However, given the lack of overall integrity and the fact that the recordation and documentation of the resource exhausts its research potential, the resource does not appear to be eligible for nomination to the California Registry of Historic Places under any of their Criteria.

The second resource identified is the Big Creek No. 3 transmission line, which intersects the proposed Project Area at two different locations. Based on the current project description the proposed Project would not replace or alter any portion of the Big Creek transmission line, which is part of the Big Creek Hydroelectric System. The generation and transmission facilities at Big Creek system dating between 1911 and 1929, the period of significance for the Big Creek Hydroelectric System, are eligible for listing in the CRHR and the NRHP per eligibility Criteria A, B, and C. The historic transmission system has remained substantially intact along its entire 241-mile length, even though conductors and insulators on the line(s) may have been changed in the past century; however, this has not diminished the overall historical integrity of the system.

A third resources identified is a portion of a telegraph/telephone communication systems that was most likely installed to facilitate communication between Southern Pacific Railroad facilities along the Famoso to Porterville spur. Given that the resource is not unique, nor does it represent a unique and distinct architectural style, the resource does not appear eligible for nomination to the CRHR either under Criteria A, B, C, or D. Based on the current project description the proposed project would not alter nor replace any part of the existing resource; thus, the resource will not be adversely impacted by the proposed Project.

The final resource found is an abandoned Southern Pacific Railroad spur, which at some point in time served the agricultural industry of the Southern San Joaquin Valley and connected local vineyards, citrus orchard, and wineries with local markets in the Bakersfield and Porterville area. As this abandoned resource is no longer in existence, it will not be significantly impacted by the proposed project. Furthermore, as the resource is no longer in existence it does not appear to be eligible for nomination to the CRHR.

The methods and techniques used by AMEC are sufficient for the identification of cultural resources visible at the ground surface. However, there is always a possibility that buried archaeological deposits could be found during construction and earth disturbing activities. As such, potential significant impacts to historical or archeological resources may occur.

However, with the implementation of Mitigation Measure 3.5-1 below, these impacts will be reduced to a less than significant level.

Cumulative Impact Analysis: *Less than Significant Impact with Mitigation*

The geographic area of this cumulative analysis is Tulare County.

Impact Analysis included a review of California Historical Resources Information System (CHRIS) cultural resource site record files by the San Joaquin Valley Information Center, site visit and pedestrian survey. These files include known and recorded archaeological and historic sites, inventory and excavation reports filed with the office, and properties listed on the National Register of Historic Places, the Historic Property Data File the California Historical Landmarks, the California Register, the California Inventory of Historic Resources and the California Points of Historical Interest.¹⁰

The proposed Project would only contribute to cumulative impacts related to this checklist item if Project specific impacts were to occur. As the proposed Project would be mitigated to a level considered less than significant, cumulative impacts would also be considered less than significant with mitigation.

Mitigation Measures:

- 3.5-1** The project proponent shall continuously comply with the following: In the event that historical, archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the Project site be immediately suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. In this event, the property owner shall retain a qualified archaeologist/ paleontologist to provide recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recover, excavation analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of Project design as previously approved by the County.

Conclusion: *Less than Significant Impact with Mitigation*

With implementation of the above mentioned mitigation measure(s), potential Project specific and cumulative impacts related to this checklist item will be reduced level considered less than significant.

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?**

Project Impact Analysis: *Less than Significant Impact with Mitigation*

¹⁰Appendix D

As mentioned in response 3.5 a), the records search survey resulted in the discovery of four new, previously undocumented resources within the Project Area.

Resource 54-004831, represents remnants of a historic water storage/irrigation tank that has been removed with only concrete footings remaining in place; thus, the resource is not eligible for nomination to the California Register of Historic Resources (CRHR).

Resource 54-004832, which represents portion of the Big Creek No. 3 transmission line appears to be eligible to the CRHR and the NRHP as it was constructed during the period of significance for the Big Creek Hydroelectric System per eligibility Criteria A, B, and C. While the eligible resource (54-004832) intersects the current Project Area, the proposed project will not replace, alter, or adversely affect any portion of the transmission line.

Resource 54-004833, represents a historic telegraph/telephone line associated with the Southern Pacific Railroad and while intact does not appear to be eligible for nomination to the CRHR.

The abandoned Southern Pacific Railroad segment (54-004834), between Famoso and Porterville is no longer in existence; thus it is not eligible for nomination to the CRHR. Based on the findings of the current study no additional research or additional archaeological studies are recommended at this time.

Based on the survey results, the Project site has potential for incidental discovery of cultural resource as other sites in similar settings in the San Joaquin Valley. However, the extent of previous agricultural disturbance within the Project area leads to moderately low chance to encounter or subsurface historical deposits¹¹. This suggests that there is a low potential for ground-disturbing activities to expose and affect previously unknown significant cultural resources, including historical and archaeological resources.

However, unrecorded historical resources could be present underground within the proposed Project site and there is a possibility that historical (or archaeological) materials may be exposed during construction activities. In the event that cultural resources are present within the Project site, grading and trenching as well as other ground disturbing actions, have the potential to incidentally damage or destroy the unidentified items and potentially affect cultural resources within the proposed Project area, including historical resources.

The solar facility's daily operation of the project would not result in impacts related to the disturbance of historical resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA. Implementation of Mitigation Measure MM 3.5-1 will reduce potential impacts in the event of discovery of cultural resources, including historical resources, associated with the Project to less-than-significant levels.

¹¹ Appendix D

Cumulative Impact Analysis: ***Less than Significant Impact with Mitigation***

The geographic area of this cumulative analysis is Tulare County.

The proposed Project would only contribute to cumulative impacts related to this checklist item if Project specific impacts were to occur. As the proposed Project would be mitigated to a level considered less than significant, cumulative impacts would also be considered less than significant with mitigation.

Mitigation Measures:

See Mitigation Measure 3.5-1.

Conclusion: ***Less than Significant Impact with Mitigation***

With implementation of the Mitigation Measure 3.5-1, potential Project specific and cumulative impacts related to this checklist item will be reduced level considered less than significant.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Project Impact Analysis: ***Less than Significant Impact with Mitigation***

On July 30, 2012, AMEC on behalf of SCE and TSC, contacted the Natural History Museum (NHM) in Los Angeles and requested a review of known paleontological collections and resources within the entire Project Area. The NHM search did not identify any significant paleontological deposits within the current Project Area or in the immediate vicinity of the Project Area that could be impacted by the proposed Project. Copies of correspondence related to paleontological records search are contained in Appendix E.

According to geologic maps, the entire proposed Project Area lies within terrestrial Plio-Pleistocene deposits typically referred to as the Kern River Formation. Several known vertebrate fossil localities from the Kern River Formation are all located south-southeast of the current Project Area and northeast of Bakersfield. Portions of the proposed Project Area (particularly in the southern portion) appear to have surface deposits of younger Quaternary Alluvium primarily associated with the drainages that flow through the Project Area. These deposits typically do not contain significant vertebrate fossils (at least in the upper most layers); however, two vertebrate fossils localities from the Quaternary Alluvial deposits have been identified east of the northern part of the Project Area between Fountain Springs and White River. Both of those localities produced specimens of fossil mammoth, *Mammuthus*. At present, there are no known reported fossil discoveries or locations that have been reported within the proposed Project Area¹², however, it is unknown whether subsurface resources exist. Impacts have the potential to be significant; however, including the implementation of Mitigation Measure 3.5-1, any impacts will be considered less than significant.

¹² See Appendix E

Cumulative Impact Analysis: ***Less than Significant Impact with Mitigation***

The geographic area of this cumulative analysis is Tulare County.

The proposed Project would only contribute to cumulative impacts related to this checklist item if Project specific impacts were to occur. As the proposed Project would be mitigated to a level considered less than significant, cumulative impacts would also be considered less than significant with mitigation.

Mitigation Measures:

See Mitigation Measure 3.5-1.

Conclusion: ***Less than Significant Impact with Mitigation***

With implementation of the Mitigation Measure 3.5-1, potential Project specific and cumulative impacts related to this checklist item will be reduced level considered less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Project Impact Analysis: ***Less than Significant Impact with Mitigation***

The Project site is highly disturbed. No cultural resources have been encountered previously on the Project site. Although it cannot conclusively be demonstrated that no subsurface human remains are present, it is possible to mitigate potentially significant impacts with the following Mitigation Measure. With implementation the Mitigation Measure 3.5-2, Project specific impacts related to this checklist item would reduced to a level considered less than significant.

Cumulative Impact Analysis: ***Less than Significant Impact with Mitigation***

The geographic area of this cumulative analysis is Tulare County.

The methodology used in analysis of cultural resource impacts included a review of California Historical Resources Information System (CHRIS) cultural resource site records by the San Joaquin Valley Information Center, a site visit and pedestrian survey. In addition, a Cultural Resources Assessment was prepared by a qualified professional archaeologist who researched the history of the site and prepared an historic context for the area based on literature and database searches for potential historic or cultural resources.

Given the disturbed nature of the site and its location, it is not anticipated that Native American remains will be found at the site. However, consistent with CEQA requirements, mitigation measures were added in the unlikely event that if Native American remains are unearthed during any ground disturbance activities, all work will immediately halt and the

Native American Heritage Association will be contacted to assess the findings and make appropriate mitigation recommendations.

The proposed Project would only contribute to cumulative impacts related to this checklist item, if Project specific impacts were to occur. As the proposed Project will be mitigated to a level considered less than significant, cumulative impacts will also be considered less than significant with mitigation.

Mitigation Measures:

3.5-2 Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during Project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
 - a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; and
 - b. If the coroner determines the remains to be Native American:
 - i. The coroner shall contact the Native American Heritage Commission within 24 hours.
 - ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
 - iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or
2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

- a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
- b. The descendant fails to make a recommendation; or
- c. The landowner or his authorized representative rejects the recommendation of the descendent.

Conclusion:

Less than Significant Impact with Mitigation

With implementation of the above mentioned Mitigation Measure(s), potential Project specific and cumulative impacts related to this checklist item will be reduced level considered less than significant.

REFERENCES

CEQA & Historical Resources, *CEQA Technical Advice Series*,
<http://ceres.ca.gov/ceqa/more/tas/page3.html>

2012 CEQA Guidelines

Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162).

Cultural Resource Survey Report for the Proposed 1,064-Acre Tulare Solar Center, Near Richgrove, Tulare County, Ca, AMEC Environment and Infrastructure, Inc., September 2012

Cultural Resources Records Search for the Wellhead Solar Project Area, Section 23, 23, and 27; Township 24S, Range 27E, Richgrove, CA (RS #12-028; RSOC #201202), RSO Consulting, Cultural and Historical Resource Management, January 2012

Advisory Council on Historic Preservation, <http://www.achp.gov/nrcriteria.html>, Updated March 11, 2008

Advisory Council on Historic Preservation, State Historic Preservation Officers, <http://www.achp.gov/shpo.html>, Updated Feb. 24, 2009.

California State Parks, Office of Historic Preservation, *About OHP*,
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California State Parks, Office of Historic Preservation, *California Register: Criteria for Designation*, http://www.ohp.parks.ca.gov/?page_id=21238

Geology and Soils

Chapter 3.6

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Geology and Soils, and therefore, no mitigation measures are required. A review of the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) detailing the proposed Project site's soil composition is included as Appendix F. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Geology and Soils

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Geology and Soils. As required in Section 15126, all phases of the proposed Project will be considered was part of the potential environmental impact.

As noted in 15126.2(a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”¹

¹ CEQA Guidelines Section 15126.2

The environmental setting provides a description of the Geology and Soils in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

DEFINITIONS

Fault:

“A fault is a fracture in the Earth’s crust that is accompanied by displacement between the two sides of the fault. An active fault is defined as a fracture that has shifted in the last 10,000 to 12,000 years (Holocene Period). A potentially active fault is one that has been active in the past 1.6 million years (Quaternary Period). A sufficiently active fault is one that shows evidence of Holocene displacement on one or more of its segments or branches (Hart, 1997).”²

Liquefaction:

“Liquefaction in soils and sediments occurs during earthquake events, when soil material is transformed from a solid state to a liquid state, generated by an increase in pressure between pore space and soil particles. Earthquake-induced liquefaction typically occurs in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but it can also occur in dry, granular soils or saturated soils with partial clay content.”³

Magnitude:

“Earthquake magnitude is measured by the Richter scale, indicated as a series of Arabic numbers with no theoretical maximum magnitude. The greater the energy released from the fault rupture, the higher the magnitude of the earthquake. Magnitude increases logarithmically in the Richter scale; thus, an earthquake of magnitude 7.0 is thirty times stronger than one of magnitude 6.0. Earthquake energy is most intense at the point of fault slippage, the epicenter, which occurs because the energy radiates from that point in a circular wave pattern. Like a pebble thrown in a pond, the increasing distance from an earthquake’s epicenter translates to reduced groundshaking.”⁴

² Tulare County General Plan 2030 Update, Appendix B General Plan Background Report, 8-2.

³ Ibid.

⁴ Ibid.

ABBREVIATIONS

(CVRWQCB)	Central Valley Regional Water Quality Control Board
(CWA)	Clean Water Act
(NRCS)	Natural Resources Conservation Service
(USDA)	United States Department of Agriculture

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Located on a Fault line
- Hazard to people or property
- Project subject to landslides
- Located on a liquefaction zone

ENVIRONMENTAL SETTING

“Seismicity varies greatly between the two major geologic provinces represented in Tulare County. The Central Valley is an area of relatively low tectonic activity bordered by mountain ranges on either side. The Sierra Nevada Mountains, partially located within Tulare County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Range on the west side of the Central Valley is also a result of these forces, and the continued uplifting of Pacific and North American tectonic plates continues to elevate these ranges. The remaining seismic hazards in Tulare County generally result from movement along faults associated with the creation of these ranges.”⁵

“Earthquakes are typically measured in terms of magnitude and intensity. The most commonly known measurement is the Richter Scale, a logarithmic scale which measures the strength of a quake. The Modified Mercalli Intensity Scale measures the intensity of an earthquake as a function of the following factors:

- Magnitude and location of the epicenter;
- Geologic characteristics;
- Groundwater characteristics;
- Duration and characteristic of the ground motion;
- Structural characteristics of a building.”⁶

“Faults are the indications of past seismic activity. It is assumed that those that have been active most recently are the most likely to be active in the future. Recent seismic activity is measured

⁵ Tulare County General Plan 2030 Update, *Appendix B General Plan Background Report*, 8-5.

⁶ *Ibid*

in geologic terms. Geologically recent is defined as having occurred within the last two million years (the Quaternary Period). All faults believed to have been active during Quaternary time are considered “potentially active.”⁷

“Settlement can occur in poorly consolidated soils during groundshaking. During settlement, the soil materials are physically rearranged by the shaking and result in reduced stabling alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils, or improperly founded or poorly compacted fill. These areas are known to undergo extensive settling with the addition of irrigation water, but evidence due to groundshaking is not available. Fluctuating groundwater levels also may have changed the local soil characteristics. Sufficient subsurface data is lacking to conclude that settlement would occur during a large earthquake; however, the data is sufficient to indicate that the potential exists in Tulare County.”⁸

“Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged groundshaking. Areas most prone to liquefaction are those that are water saturated (e.g., where the water table is less than 30 feet below the surface) and consist of relatively uniform sands that are low to medium density. In addition to necessary soil conditions, the ground acceleration and duration of the earthquake must be of sufficient energy to induce liquefaction. Scientific studies have shown that the ground acceleration must approach 0.3g before liquefaction occurs in a sandy soil with relative densities typical of the San Joaquin alluvial deposits. Liquefaction during major earthquakes has caused severe damage to structures on level ground as a result of settling, tilting, or floating. Such damage occurred in San Francisco on bay-filled areas during the 1989 Loma Prieta earthquake, even though the epicenter was several miles away. If liquefaction occurs in or under a sloping soil mass, the entire mass may flow toward a lower elevation, such as that which occurred along the coastline near Seward, Alaska during the 1964 earthquake. Also of particular concern in terms of developed and newly developing areas are fill areas that have been poorly compacted.”⁹

Earthquake Hazards

“Groundshaking is the primary seismic hazard in Tulare County because of the county’s seismic setting and its record of historical activity. Thus, emphasis focuses on the analysis of expected levels of groundshaking, which is directly related to the magnitude of a quake and the distance from a quake’s epicenter. Magnitude is a measure of the amount of energy released in an earthquake, with higher magnitudes causing increased groundshaking over longer periods of time, thereby affecting a larger area. Groundshaking intensity, which is often a more useful measure of earthquake effects than magnitude, is a qualitative measure of the effects felt by population. The valley portion of Tulare County is located on alluvial deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas. However, existing alluvium valleys and weathered or decomposed zones are scattered throughout the mountainous portions of the county which could

⁷ Ibid

⁸ Tulare County General Plan 2030 Update, *Appendix B General Plan Background Report*, 8-9.

⁹ Ibid

also experience stronger intensities than the surrounding solid rock areas. The geologic characteristics of an area can therefore be a greater hazard than its distance to the epicenter of the quake.”¹⁰

“There are three faults within the region that have been, and will be, principal sources of potential seismic activity within Tulare County. These faults are described below:

- **San Andreas Fault.** The San Andreas Fault is located approximately 40 miles west of the Tulare County boundary. This fault has a long history of activity, and is thus the primary focus in determining seismic activity within the county. Seismic activity along the fault varies along its span from the Gulf of California to Cape Mendocino. Just west to Tulare County lies the “Central California Active Area,” where many earthquakes have originated.
- **Owens Valley Fault Group.** The Owens Valley Fault Group is a complex system containing both active and potentially active faults, located on the eastern base of the Sierra Nevada Mountains. The Group is located within Tulare and Inyo Counties and has historically been the source of seismic activity within Tulare County.

Clovis Fault. The Clovis Fault is considered to be active within the Quaternary Period (within the past two million years), although there is no historic evidence of its activity, and is therefore classified as “potentially active.” This fault lies approximately six miles south of the Madera County boundary in Fresno County. Activity along this fault could potentially generate more seismic activity in Tulare County than the San Andreas or Owens Valley fault systems. In particular, a strong earthquake on the Fault could affect northern Tulare County. However, because of the lack of historic activity along the Clovis Fault, inadequate evidence exists for assessing maximum earthquake impacts.”¹¹ “Older buildings constructed before current building codes were in effect, and even newer buildings constructed before earthquake resistance provisions were included in the current building codes, are most likely to suffer damage in an earthquake. Most of Tulare County’s buildings are no more than one or two stories in height and are of wood frame construction, which is considered the most structurally resistant to earthquake damage. Older masonry buildings (without earthquake-resistance reinforcement) are the most susceptible to structural failure, which causes the greatest loss of life. The State of California has identified unreinforced masonry buildings as a safety issue during earthquakes. In high risk areas (Bay Area) inventories and programs to mitigate this issue are required. Because Tulare County is not a high risk area, state law only recommends that programs to retrofit URM’s are adopted by jurisdictions.”¹²

Soils and Liquefaction

“The San Joaquin Valley portion of Tulare County is located on alluvial deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas. However, existing alluvium valleys and weathered or

¹⁰ Ibid. 8-7.

¹¹ Tulare County General Plan 2030 Update, *Appendix B General Plan Background Report*, 8-6 to 8-7.

¹² Ibid, 8-8.

decomposed zones are scattered throughout the mountainous portions of the county which could also experience stronger intensities than the surrounding solid rock areas. The geologic characteristics of an area can therefore be a greater hazard than its distance to the epicenter of the quake.”¹³

“No specific countywide assessments to identify liquefaction hazards have been performed in Tulare County. Areas where groundwater is less than 30 feet below the surface occur primarily in the valley. However, soil types in the area are not conducive to liquefaction because they are either too coarse or too high in clay content. Areas subject to 0.3g acceleration or greater are located in a small section of the Sierra Nevada Mountains along the Tulare-Inyo County boundary. However, the depth to groundwater in such areas is greater than in the valley, which would minimize liquefaction potential as well. Detailed geotechnical engineering investigations would be necessary to more accurately evaluate liquefaction potential in specific areas and to identify and map the areal extent of locations subject to liquefaction.”¹⁴

Landslides

“Landslides are a primary geologic hazard and are influenced by four factors:

- Strength of rock and resistance to failure, which is a function of rock type (or geologic formation);
- Geologic structure or orientation of a surface along which slippage could occur;
- Water (can add weight to a potentially unstable mass or influence strength of a potential failure surface); and,
- Topography (amount of slope in combination with gravitation forces).”¹⁵

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

California Building Code

“The California Building Code is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards.”¹⁶

¹³ Ibid. 8-7.

¹⁴ Tulare County General Plan 2030 Update, *Appendix B General Plan Background Report*, 8-9.

¹⁵ Ibid, 8-10.

¹⁶ Ibid, 8-3.

Alquist-Priolo Earthquake Fault Zoning Act

“The Alquist- Priolo Earthquake Fault Zoning Act (formerly the Alquist- Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces.”¹⁷

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

ERM-7.2 Soil Productivity

The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other similar agencies and organizations.

ERM-7.3 Protection of Soils on Slopes

Unless otherwise provided for in this General Plan, building and road construction on slopes of more than 30 percent shall be prohibited, and development proposals on slopes of 15 percent or more shall be accompanied by plans for control or prevention of erosion, alteration of surface water runoff, soil slippage, and wildfire occurrence.

HS-2.1 Continued Evaluation of Earthquake Risks

The County shall continue to evaluate areas to determine levels of earthquake risk.

HS-2.4 Structure Siting

The County shall permit development on soils sensitive to seismic activity permitted only after adequate site analysis, including appropriate siting, design of structure, and foundation integrity.

HS-2.7 Subsidence

The County shall confirm that development is not located in any known areas of active subsidence. If urban development may be located in such an area, a special safety study will be prepared and needed safety measures implemented. The County shall also request that developments provide evidence that its long-term use of ground water resources, where applicable, will not result in notable subsidence attributed to the new extraction of groundwater resources for use by the development.

¹⁷ Ibid, 8-3.

HS-2.8 Alquist-Priolo Act Compliance

The County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones (pursuant to and as determined by the Alquist-Priolo Earthquake Fault Zoning Act; Public Resource code, Chapter 7.5) unless the specific provision of the Act and Title 14 of the California Code of Regulations have been satisfied.

IMPACT AREAS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

No substantial faults are known to traverse Tulare County according to the Alquist-Priolo Earthquake Fault Zoning Maps and the State of California Department of Conservation.¹⁸ The nearest minor fault line is the Poso Creek fault zone approximately 15 miles southwest of the proposed Project site. The nearest major fault line, which lies outside of Tulare County, is the San Andreas fault zones; approximately 56 miles southwest of the proposed Project site. According to the Five County Seismic Safety Element (FCSSE), Tulare County is located in the V-1 zone. This zone includes most of the eastern San Joaquin Valley, and is characterized by a relatively thin section of sedimentary rock overlying a granitic basement. Amplification of shaking that would affect low to medium-rise structures is relatively high, but the distance of the faults that are expected sources of the shaking is sufficiently great that the effects should be minimal. The

¹⁸ State of California Department of Conservation, *Alquist-Priolo Earthquake Fault Zone Maps*, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm, Updated December 2010.

requirements of Zone II of the Uniform Building Code should be adequate for normal facilities.¹⁹ Any impacts resulting from the rupture of a known earthquake fault would be less than significant.

ii) Strong seismic ground shaking?

Tulare County is characterized as Severity Zone “Nil” and “Low” for groundshaking events.²⁰ Deaggregation of the hazard was performed by using the USGS Interactive Deaggregation website and it was found that all faults within a 20 mile radius are quaternary faults between the ages of 750,000 and 1.6 million years old.²¹ Quaternary faults are defined as those faults that have been recognized at the surface and which have evidence of movement in the past 1.6 million years, which is the duration of the Quaternary Period.²² Due to the distance and types of faults in the proposed Project vicinity, as seen in Figure 3.6-1, strong ground shaking is unlikely. Any impact would be less than significant.

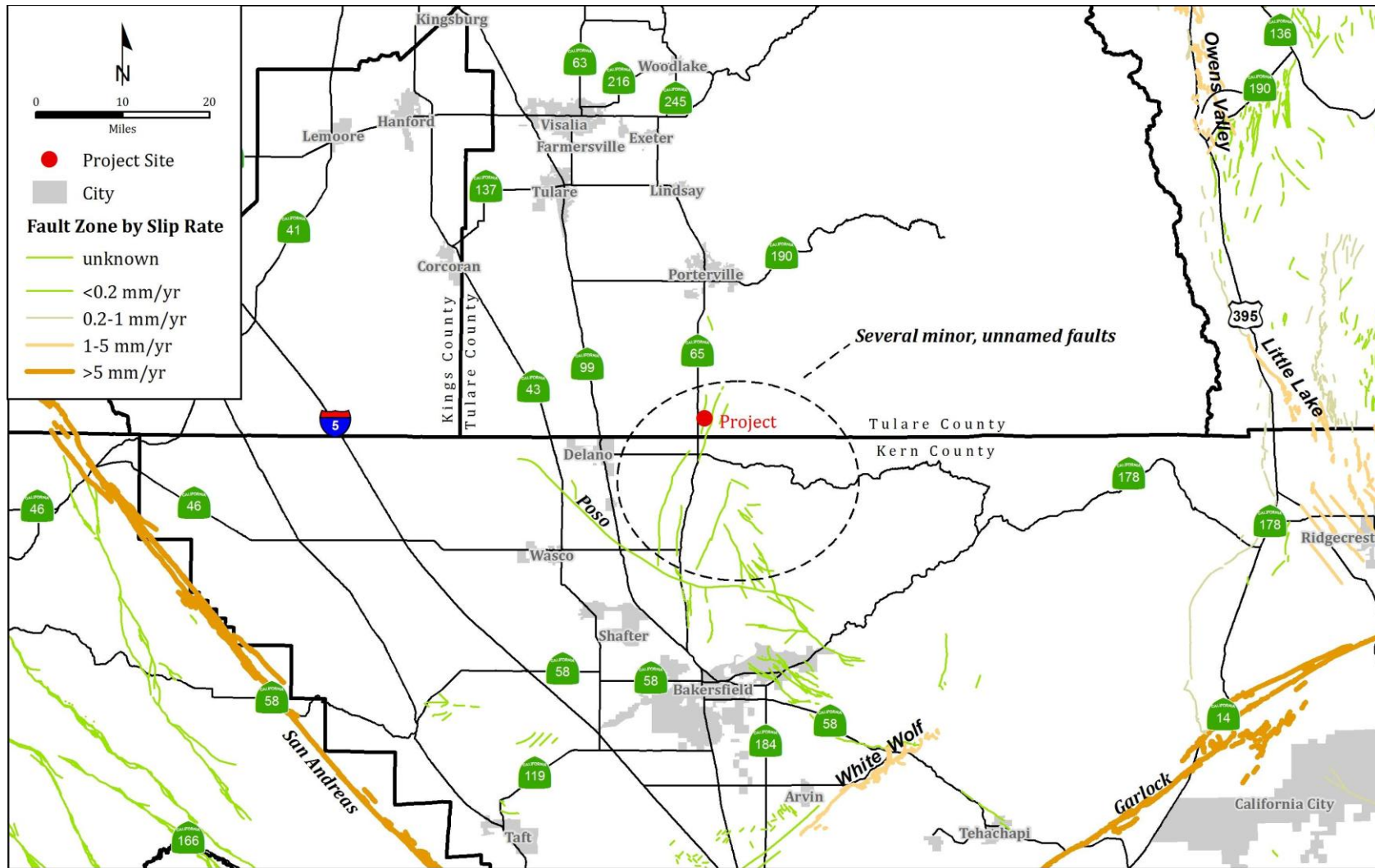
¹⁹ Five County Seismic Safety Element, *Summary & Policy Recommendations II*, 3 and 15.

²⁰ Tulare County General Plan 2030 Update, *Part I-Goals and Policies Report*, 253.

²¹ USGS, *Earthquake Hazards Program: Custom Mapping & Analysis Tools*, <http://geohazards.usgs.gov/qfaults/ca/California.php>.

²² USGS, *Earthquake Hazards Program: Glossary*, <http://earthquake.usgs.gov/hazards/qfaults/glossary.php#Q>.

Figure 3.6-1
Earthquake Faults



2/28/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINAL\faults.mxd

iii) Seismic-related ground failure, including liquefaction?

The proposed Project area is not located within an area mapped to have a potential for soil liquefaction. Liquefaction in soils and sediments occurs during earthquake events, when soil material is transformed from a solid state to a liquid state, generated by an increase in pressure between pore space and soil particles. Earthquake induced liquefaction typically occurs in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but it can also occur in dry, granular soils or saturated soils with partial clay content. Based on available subsurface data, the proposed Project site is underlain by shallow rock that would not liquefy. The site soil type consists of: Centerville clay, 2 to 9 percent slopes; Centerville clay, 9 to 15 percent slopes; Exeter loam, 2 to 9 percent slopes; Havala loam, 2 to 5 percent slopes; and Centerville clay, 2 to 5 percent slopes. The soil types range from a depth to root restrictive layer of 20-80 inches, and all have a natural drainage class of well drained.²³ No subsidence-prone soils or oil or gas production is involved on or near the proposed Project site. There would be no impact caused by seismic-related ground failure, including liquefaction.

iv) Landslides?

Landslides are not a significant threat as the topography in the Project area is relatively flat. No geologic landforms exist on or near the site that would result in a landslide event. There would be no impact.

Project Impact Analysis:

Less than Significant Impact

The existing Project area is not located within a published Earthquake Fault Zone and the potential for ground rupture is low. As earthquakes are possible throughout the State of California, the Project will be required to comply with the Tulare County General Plan and Zone II of the Uniform Building Code. In addition, the existing Project area is not located within an area mapped to have a potential for soil liquefaction. As the Project area is relatively flat, there is no potential for landslides. Less than significant project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not increase geotechnical related impacts off-site. No cumulative impacts related to this checklist item will occur.

²³ See Appendix A

Mitigation Measures:

None Required.

Conclusion:

Less than Significant Impact

Implementation of the proposed Project will not cause a significant impact, potential Project-specific impacts related to this checklist item will be reduced to a level considered less than significant and no cumulative impacts related to this checklist item will occur.

b) Result in substantial soil erosion or the loss of topsoil?

Project Impact Analysis:

Less than Significant Impact

The Project area is primarily flat and as such, soil erosion is not anticipated. Construction could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at the construction sites and staging areas. However, the Project will include ground cover as determined by best engineering practice, maintenance requirements, and pertinent agronomic advice. It is anticipated that appropriate vegetation, determined via consultation with the Tulare County Department of Agriculture or other agronomic experts (e.g., the University of California Agricultural Extension Service) would be utilized on various portions of the Project to guard against erosion and to decrease the potential for stormwater runoff. Certain areas of the Project site may remain non-vegetated in order to accommodate operations/maintenance considerations and to decrease fire risks. Project O&M staff will ensure maintenance of any vegetation as necessary to minimize noxious weeds, pests, and/or fire hazard. Occasional grazing by sheep may also be utilized for vegetation/fire hazard reduction.

In addition, as required by the Clean Water Act (CWA) and the Central Valley Regional Water Quality Control Board (CVRWQCB), a Stormwater Pollution Prevention Plan (SWPPP) will be developed by a qualified engineer or erosion control specialist and implemented before construction begins. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the CVRWQCB. The objectives of the SWPPP will be to identify pollutant sources that may affect the quality of stormwater associated with construction activity and to identify, construct, and implement stormwater pollution prevention measures to reduce pollutants in stormwater discharges during and after construction. To meet these objectives, the SWPPP will include a description of potential pollutants, a description of methods of management for dredged sediments, and hazardous materials present on site during construction (including vehicle and equipment fuels). The SWPPP will also include details for best management practices (BMPs) for the implementation of sediment and erosion control practices. Implementation of the SWPPP will comply with state and federal water quality regulations and will reduce this impact to a less-than-significant level. Compliance with local grading and erosion control ordinances will also help minimize adverse effects associated with

erosion and sedimentation. Any stockpiled soils will be watered and/or covered to prevent loss due to wind erosion as part of the SWPPP during construction and reclamation. As a result of these efforts, loss of topsoil and substantial soil erosion during the construction and reclamation periods are not anticipated. The impact will be less than significant. No mitigation is required.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or the Tulare County 2030 General Plan EIR.

The proposed Project site is not located on slope or adjacent to a designated waterway. The proposed Project also does not involve changes that will affect off-site hillsides or designated waterways. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None required.

Conclusion: *Less than Significant*

Implementation of the proposed Project will not cause a significant impact, potential project specific impacts related to this checklist item will be reduced to a level considered less than significant and no cumulative impacts related to this checklist item will occur.

- c) **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

Project Impact Analysis: *Less than Significant Impact*

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the proposed Project site is located on alluvial fan deposits, which are unlikely to become unstable.²⁴ Substantial grade change will not occur in the topography to the point where the Project would expose people or structures to potential substantial adverse effects on, or offsite, such as landslides, lateral spreading, liquefaction or collapse. The impact will be less than significant.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

²⁴ USDA NRCS Web Soils Report, *Custom Soil Resource Report for Tulare County, California, Central Part*, February 21, 2012

The proposed Project will have a minor impact on soil compaction. This minor compaction will have a *de minimus* impact of on-site soils. As such, less than significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None required.

Conclusion:

Less than Significant Impact

As noted earlier, the Project-specific or cumulative impacts related to this checklist item will be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Project Impact Analysis:

No Impact

No subsidence prone soils, oil or gas production or overdraft exists at the proposed Project area. Furthermore, soil conditions are not prone to soil instability due to their low shrink swell behavior. Compliance with the locally-adopted building code will result in no Project impact.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project site is not located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994). As such, the proposed Project will not create a risk to life or property related to this checklist item throughout any stage of the Project's life span. No cumulative impacts will occur.

Mitigation Measures:

None required.

Conclusion:

No Impact

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Project Impact Analysis:

Less than Significant Impact

Liquid (sanitary) wastes generated during project construction are expected to range from 13 to 20 gallons per worker. Sanitary wastes will be contained in portable facilities collected at least weekly, and disposed of at an off-site disposal or treatment facility.

Upon completion of the construction phase, the Project may utilize an on-site septic tank and leach field system to dispose wastewater. The total quantity of wastewater is estimated to be approximately 13 gallons per day per employee.²⁵ As such, the expected total wastewater flow will be 26 to 39 gallons per day. A single-family residence produces an average of approximately 210 gallons per day,²⁶ therefore, the projected wastewater flow is well within the capacity of a typical septic tank and leach field system. Design for any future on-site septic system will be submitted to the Tulare County Environmental Health Department for approval prior to issuance of building permits.

The proposed Project allows for installation of permanent restroom facilities which will utilize an on-site septic system. The septic system design will be subject to a percolation test prior to construction. Therefore the impact will be less than significant.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will generate a minimal increase in the amount of wastewater to be treated on site with a septic tank and leach field. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None required.

Conclusion: *Less than Significant Impact*

As noted earlier, the on-site septic system will be subject to percolation tests prior to construction and Tulare County Environmental Health Department standards. The Project specific and cumulative impacts related to this checklist item would be less than significant.

²⁵ Metcalf & Eddy, "Wastewater Engineering," third edition, Table 2-10

²⁶ Ibid, Table 2-9

REFERENCES

CEQA Guidelines Section 15126.2

Tulare County General Plan 2030 Update, *Appendix B General Plan Background Report*

Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162).

Custom Soils Resource Report for Tulare Solar Center, Provost and Pritchard Consulting Group, July 2012

State of California Department of Conservation, *Alquist-Priolo Earthquake Fault Zone Maps*, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm, Updated December 2010

Five County Seismic Safety Element, *Summary & Policy Recommendations II*, 3 and 15.

USGS, *Earthquake Hazards Program: Custom Mapping & Analysis Tools*, <http://geohazards.usgs.gov/qfaults/ca/California.php>

USGS. *Earthquake Hazards Program: Glossary*, <http://earthquake.usgs.gov/hazards/qfaults/glossary.php#Q>.

USDA NRCS Web Soils Report, *Custom Soil Resource Report for Tulare County, California, Central Part*, February 21, 2012

Metcalf & Eddy, "Wastewater Engineering," third edition, Table 2-10

Greenhouse Gas Emissions

Chapter 3.7

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Greenhouse Gas generation and therefore, no mitigation measures are required. Using the Air Districts recommended air models, EMFAC2011 and OFFROAD2011, project related GHG emissions were estimated and the results are included as Appendix B. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Greenhouse Gas Emissions

Section 15064.4 Determining the Significance of Impacts from Greenhouse Gas Emissions

- “(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
- (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
 - (2) Rely on a qualitative analysis or performance based standards.
- (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
- (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
 - (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
 - (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the projects incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted

regulations or requirements, an EIR must be prepared for the project.”¹

DEFINITIONS

as Defined by SJVAPC District or Tulare County General Plan

Achieved-in-Practice:

“Any equipment, technology, practice or operation available in the United States that has been installed and operated or used at stationary source site for a reasonable period of time sufficient to demonstrate that the equipment, technology, practice or operation is reliable when operated in a manner that is typical for the process. In determining whether equipment, technology, practice or operation is Achieved-in-Practice, the District will consider the extent to which grants, incentives or other financial subsidies influence the economic feasibility of its use.”²

Approved Alternate Technology:

“Any District approved, Non-Achieved-in- Practice GHG emissions reduction measure equal to or exceeding the GHG emission reduction percentage for a specific BPS.”³

Baseline:

“The three year average (2002-2004) of GHG emissions for a type of equipment or operation within an identified class and category, expressed as annual GHG emissions per unit.”⁴

Best Performance Standard:

“For a specific Class and Category, the most effective, District approved, Achieved-In-Practice means of reducing or limiting GHG emissions from a GHG emissions source, that is also economically feasible per the definition of Achieved-in-Practice. BPS includes equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class and category.”⁵

Business-as-Usual:

“Total baseline emissions for all emissions sources within the development type, projected for the year 2020, assuming no change in GHG emissions per unit of activity as established for the baseline period,

¹ 2012 CEQA Guidelines, Section 15064.4

² District Policy, Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as Lead Agency, page 6

³ Ibid, page 6

⁴ Ibid, page 7

⁵ Ibid, page 7

*Draft Environmental Impact Report
Tulare Solar Center*

2002-2004. To relate BAU to an emissions generating activity, the District proposes to establish emission factors per unit of activity, for each class and category, using the 2002-2004 baseline period as the reference.”⁶

Category:

“A District approved subdivision within a “class” as identified by unique operational or technical aspects.”⁷

Class:

“The broadest District approved division of stationary GHG sources based on fundamental type of equipment or industrial classification of the source operation.”⁸

Global Warming:

“Global warming is an increase in the temperature of the Earth's troposphere. Global warming has occurred in the past as a result of natural influences, but the term is most often used to refer to the warming predicted by computer models to occur as a result of increased emissions of greenhouse gases.”⁹

Greenhouse Gas:

“Greenhouse gas (GHG) emissions are the release of any gas that absorbs infrared radiation in the atmosphere. Generally when referenced in terms of global climate they are considered to be harmful. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).”¹⁰

Nitrogen Oxides (Oxides of Nitrogen, NO_x):

“Nitrogen oxides are compounds of nitric oxide (NO), nitrogen dioxide (NO₂) and other oxides of nitrogen. Nitrogen oxides are primarily created from the combustion process and are a major contributor to smog and acid rain formation.”¹¹

⁶ San Joaquin Valley Air Pollution Control District, Addressing Greenhouse Gas Emissions Impact under the California Environmental Quality Act (CEQA) , page 1, https://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Development_Sources.pdf

⁷ San Joaquin Valley Air Pollution Control District, Addressing Greenhouse Gas Emissions Impact under the California Environmental Quality Act (CEQA) , page 1, https://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Development_Sources.pdf, page 7

⁸ Ibid., page 7

⁹ General Plan Background Report, page 6-3

¹⁰ Ibid., page 6-3

¹¹ Ibid., page 6-3

Operational Boundaries:

“Operational boundaries are defined as “[t]he boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting company. This assessment allows a company to establish which operations and sources cause direct and indirect emissions, and to decide which indirect emissions to include that are a consequence of its operations”¹²

PM10:

“Dust and other particulates exhibit a range of particle sizes. Federal and state air quality regulations reflect the fact that smaller particles are easier to inhale and can be more damaging to health. PM10 refers to particulates (including dust) that are 10 microns in diameter or smaller.”¹³

ABBREVIATIONS

(AB)	Assembly Bill
(ARB)	Air Resources Board (Short for CARB)
(AQMP)	Air Quality Management Plan
(BAU)	Business As Usual
(BPS)	Best Performance Standards
(CAA)	Clean Air Act
(Cal EPA)	California Environmental Protection Agency
(CARB)	California Air Resources Board
(CERF)	Compost Reduction Emission Factor
(CH ₄)	Methane
(CO ₂)	Carbon Dioxide
(GHG)	Greenhouse Gases
(HFCs)	Hydrofluorocarbons
(IPCC)	Intergovernmental Panel on Climate Change
(MRF/TS)	Material Recovery Facility/Transfer Station
(MSW)	Municipal Solid Waste
(N ₂ O)	Nitrous Oxide
(NAAQS)	National Ambient Air Quality Standards
(OPR)	Governor’s Office of Planning and Research
(O&M)	Operation and Maintenance
(PFCs)	Perfluorocarbons
(PV)	Photovoltaic
(RSP)	Renewable Portfolio Standards, State
(SF ₆)	Sulfur Hexafluoride
(AIR DISTRICT)	San Joaquin Valley Air Pollution Control District
(TACs)	Toxic Air Contaminants

¹² General Plan Background Report, page, page 6-32

¹³ Ibid., page 6-2

ENVIRONMENTAL SETTING

“Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern is that increases in GHGs are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. The gases believed to be most responsible for global warming are water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).”¹⁴

“For over the past 200 years, the burning of fossil fuels such as coal and oil, deforestation, and other sources have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere. These gases absorb some of the energy being radiated from the surface of the earth and trap it in the atmosphere, essentially acting like a blanket that makes the earth's surface warmer than it would be otherwise”¹⁵.

“Greenhouse gases are necessary to life as we know it, because without them the planet's surface would be about 60 °F cooler than present. But, as the concentrations of these gases continue to increase in the atmosphere, the Earth's temperature is climbing above past levels. According to NOAA and NASA data, the Earth's average surface temperature has increased by about 1.2 to 1.4 °F since 1900. The ten warmest years on record (since 1850) have all occurred in the past 13 years. Most of the warming in recent decades is very likely the result of human activities. Other aspects of the climate are also changing such as rainfall patterns, snow and ice cover, and sea level.

If greenhouse gases continue to increase, climate models predict that the average temperature at the Earth's surface could increase from 2.0 to 11.5 °F above 1990 levels by the end of this century. Many scientists believe that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate. However these scientists are not sure by how much it will change, at what rate it will change, or what the exact effects will be”¹⁶.

“As the largest contributor to U.S. greenhouse gas emissions, carbon dioxide (CO₂) from fossil fuel combustion has accounted for approximately 78 percent of global warming potential (GWP) weighted emissions since 1990, from 76 percent of total GWP-weighted emissions in 1990 to 79 percent in 2011. Emissions from this source category grew by 11.6 percent (549.7 Tg CO₂ Eq.) from 1990 to 2011 and were responsible for most of the increase in national emissions during this period. From 2010 to 2011, these emissions decreased by 2.1 percent (113.6 Tg CO₂ Eq.). Historically, changes in emissions from fossil fuel combustion have been the dominant factor affecting U.S. emission trends”¹⁷.

¹⁴ General Plan Background Report, page 6-19

¹⁵National Greenhouse Gas Emissions Data, page 1-2, <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2011-Chapter-1-Introduction.pdf>

¹⁶ Ibid., page 1-2

¹⁷Trends in Greenhouse Gas Emissions, page2- <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2011-Chapter-2-Trends.pdf>

*Draft Environmental Impact Report
Tulare Solar Center*

“In 2007, Tulare County generated approximately 5.2 million tonnes of Carbon Dioxide Equivalent (CO₂e). The largest portion of these emissions (63 percent) is attributed to dairies/feedlots, while the second largest portion (16 percent) is from mobile sources, the third largest portion (11%) is from electricity sources.”¹⁸ Table 3.7-1 below, identifies Tulare County’s emissions by sector in 2007.

**Table 3.7-1
Emissions by Sector in 2007¹⁹**

Sector	CO₂e (tonnes/year)	% of Total
Electricity	542,690	11%
Natural Gas	321,020	6%
Mobile Sources	822,230	16%
Dairy/Feedlots	3,294,870	63%
Solid Waste	227,250	4%
Total	5,208,060	100%
Per Capita	36.1	

“In 2030, Tulare County is forecast to generate approximately 6.1 million tonnes of CO₂e. The largest portion of these emissions (59%) is attributed to dairies/feedlots, while the second largest portion (20%) is from mobile sources, and third largest portion (11%) is from electricity as shown on Table 3.7-2. Per capita emissions in 2030 are projected to be approximately 27 tonnes of CO₂e per resident”²⁰.

**Table 3.7-2
Emissions by Sector in 2030²¹**

Sector	CO₂e (tonnes/year)	% of Total
Electricity	660,560	11%
Natural Gas	384,410	6%
Mobile Sources	1,212,370	20%
Dairy/Feedlots	3,601,390	59%
Solid Waste	246,750	4%
Total	6,105,480	100%
Per Capita	27.4	

The Tulare County General Plan contains the following: “Enhancement of the greenhouse effect can occur when concentrations of GHGs exceed the natural concentrations in the atmosphere. Of these gases, CO₂ and methane are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas methane primarily results from off-gassing associated with agricultural practices and landfills. SF₆ is a GHG

¹⁸ General Plan Background Report, page 6-36

¹⁹ Ibid., page 6-38

²⁰ Ibid., page 6-38

²¹ Ibid., page 6-38

commonly used in the utility industry as an insulating gas in transformers and other electronic equipment. There is widespread international scientific agreement that human-caused increases in GHGs has and will continue to contribute to global warming, although there is much uncertainty concerning the magnitude and rate of the warming.

Some of the potential resulting effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years²². Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects²³

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.”²⁴

Thresholds of Significance

Based on SJVAPCD Policy APR 2015, Zero Equivalency Policy for Greenhouse Gases, the CEQA significance threshold for greenhouse gases (GHG) is 230 metric tons per year carbon dioxide equivalent (CO₂e). This threshold applies to emissions associated with the operation of a Project.

REGULATORY SETTING

Federal Agencies & Regulations

Federal Clean Air Act

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments in 1990. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of some portions of the CAA (e.g., certain mobile source and other requirements). Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies.

²² <http://www.arb.ca.gov/design/design.htm>

²³ Intergovernmental Panel on Climate Change, <http://www.ipcc.ch/index.htm>

²⁴ General Plan Background Report, page 6-31

The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The project site is located within the San Joaquin Valley Air Basin (Basin), which is an area designated as non-attainment as the area does not meet the NAAQS for certain pollutants regulated under the CAA.

State Agencies & Regulations

California Air Resources Board

“The Air Resources Board (ARB or Board) has established State ambient air quality standards (State standards) to identify outdoor pollutant levels considered safe for the public. After State standards are established, State law requires ARB to designate each area as attainment, nonattainment, or unclassified for each State standard. The area designations, which are based on the most recent available data, indicate the healthfulness of air quality throughout the State.”²⁵ On July 22, 2004, The California Air Resources Board adopted the 2004 Revisions to the California State Implementation Plan for Carbon Monoxide²⁶.

California Air Resources Board Airborne Toxic Control Measures

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other toxic air contaminants (TACs). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, CARB has established emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the replacement of older, dirtier engines with newer emission controlled models.

The proposed Project will likely require the use of heavy-duty diesel vehicles during the construction phase.

San Joaquin Valley Air Pollution Control District (Air District)

“The San Joaquin Valley Air District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality-management strategies.”²⁷ “The San Joaquin Valley Air Pollution Control District is

²⁵ Cal/EPA Air Resources Board, <http://www.arb.ca.gov/design/design.htm>

²⁶ 2004 Revisions to the California State Implementation Plan for Carbon Monoxide, <http://www.arb.ca.gov/planning/sip/co/co.htm>

²⁷ http://www.valleyair.org/General_info/aboutdist.htm#Mission

made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern."²⁸

The District is the primary regulatory agency with responsibility for air quality in the San Joaquin Valley. Several District Rules and Plans would be applicable to any project under the jurisdiction of the SJVAPCD. Additionally, several CAA requirements are implemented by the District as part of the SIP. The following list would be applicable to the Project.

- Regional Air Quality Management Plan
- 2008 PM_{2.5} Plan
- 2007 8-Hour Ozone Plan
- 2007 PM₁₀ Maintenance Plan
- 2006 PM₁₀ SIP
- 2004 1-Hour Ozone SIP
- 2003 PM₁₀ SIP
- Rule 9510 Indirect Source Review

The San Joaquin Valley Air Pollution Control District (Air District) determined that the quantification of GHG Emissions is expected for all projects that require an Environmental Impact Report.²⁹

California Clean Air Act

"The California CAA of 1988 establishes an air quality management process that generally parallels the federal process. The California CAA, however, focuses on attainment of the State ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Responsibility for meeting California's standards is addressed by the CARB and local air pollution control districts (such as the eight county AIR DISTRICT, which administers air quality regulations for Tulare County). Compliance strategies are presented in district-level air quality attainment plans."³⁰

Executive Order S-3-05

"In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger issued Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order additionally ordered that the Secretary of the California Environmental Protection Agency (Cal EPA) would coordinate oversight of the efforts among state agencies made to meet the targets and report to the Governor and the State Legislature biannually on

²⁸ Ibid.

²⁹ District Policy, Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as Lead Agency, page 6

³⁰ Tulare County 2030 General Plan RDEIR, pages 3.3-2 to 3.3-3

progress made toward meeting the GHG emission targets. Cal EPA was also directed to report biannually on the impacts to California of global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry, and prepare and report on mitigation and adaptation plans to combat these impacts.

In response to the Executive Order, the Secretary of Cal EPA created the Climate Action Team (CAT), composed of representatives from the Air Resources Board; Business, Transportation, & Housing; Department of Food and Agriculture; Energy Commission; California Integrated Waste Management Board (CIWMB); Resources Agency; and the Public Utilities Commission (PUC). The CAT prepared a recommended list of strategies for the state to pursue to reduce climate change emission in the state.”³¹

Assembly Bill 32: California Global Warming Solutions Act of 2006

“In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), which requires the CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

The bill also requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The bill authorizes CARB to adopt market-based compliance mechanisms. The bill additionally requires the state board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by the state board, pursuant to specified provisions of existing law. The bill also authorizes CARB to adopt a schedule of fees to be paid by regulated sources of GHG emissions. Because the bill requires CARB to establish emissions limits and other requirements, the violation of which would be a crime, this bill would create a state-mandated local program.

Under AB 32, by June 30, 2007, CARB was to identify a list of discrete early action GHG reductions that will be legally enforceable by 2010. By January 1, 2008, CARB was also to adopt regulations that will identify and require selected sectors to report their statewide GHG emissions. By January 1, 2011, CARB must adopt rules and regulations to achieve the maximum technologically feasible and cost-effective reductions in GHG reductions. CARB is authorized to enforce compliance with the program that it develops.”³²

Senate Bill 97

“Governor Schwarzenegger signed Senate Bill (SB) 97 (Sutton), a CEQA and GHG emission bill, into law on August 24, 2007. SB 97 requires the Governor’s Office of Planning and Research (OPR) to prepare CEQA guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. OPR must prepare these guidelines and transmit them to the Resources Agency by July 1, 2009. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the

³¹ General Plan Background Report, page 6-19

³² Ibid., page 6-23

state CEQA Guidelines for greenhouse gas emissions. The Resources Agency must then certify and adopt the guidelines by January 1, 2010. OPR and the Resources Agency are required to periodically review the guidelines to incorporate new information or criteria adopted by CARB pursuant to the Global Warming Solutions Act, scheduled for 2012.

The OPR published a Technical Advisory in June of 2008 that is an “informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents” to serve in the interim until guidelines are established pursuant to SB 97³³. This Advisory recommends that CEQA documents include quantification of estimated GHG emissions associated with a proposed project and that a determination of significance be made. With regard to significance the Advisory states that “lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a “significant impact”, individual lead agencies may undertake a project-by-project analysis, consistent with the available guidance and current CEQA practice”³⁴.

Climate Change Scoping Plan

“The CARB published a *Climate Change Scoping Plan* in December 2008³⁵) that outlines reduction measures to lower the state’s GHG emissions to meet the 2020 limit. The *Scoping Plan* “proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health”. Key elements for reducing California’s GHG emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State’s long-term commitment to AB 32 implementation.”³⁶

Local Policy & Regulations

Tulare County General Plan Policies

³³ The Governor’s Office of Planning and Research, <http://opr.ca.gov/docs/june08-ceqa.pdf>

³⁴ General Plan Background Report, page 6-26 to 6-27

³⁵ Climate Change Scoping Plan, http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

³⁶ Climate Change Scoping Plan, http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

The General Plan has a number of policies that apply to projects within Tulare County that support reduction efforts of GHG. General Plan policies that relate to the proposed Project are listed below.

AQ-1.3 Cumulative Air Quality Impacts

The County shall require development to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Applicants shall be required to propose alternatives as part of the State CEQA process that reduce air emissions and enhance, rather than harm, the environment.

AQ-1.5 California Environmental Quality Act (CEQA) Compliance

The County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonably mitigated when feasible.

AQ-1.7 Support Statewide Climate Change Solutions

The County shall monitor and support the efforts of Cal/EPA, CARB, and the SJVAPCD, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies. As appropriate, the County will evaluate each new project under the updated General Plan to determine its consistency with the emission reduction strategies.

AQ-1.8 Greenhouse Gas Emissions Reduction Plan/Climate Action Plan

The County will develop a Greenhouse Gas Emissions Reduction Plan (Plan) that identifies greenhouse gas emissions within the County as well as ways to reduce those emissions. The Plan will incorporate the requirements adopted by the California Air Resources Board specific to this issue. In addition, the County will work with the Tulare County Association of Governments and other applicable agencies to include the following key items in the regional planning efforts.

1. Inventory all known, or reasonably discoverable, sources of greenhouse gases in the County,
2. Inventory the greenhouse gas emissions in the most current year available, and those projected for year 2020, and
3. Set a target for the reduction of emissions attributable to the County's discretionary land use decisions and its own internal government operations.

AQ-1.9 Support Off-Site Measures to Reduce Greenhouse Gas Emissions

The County will support and encourage the use of off-site measures or the purchase of carbon offsets to reduce greenhouse gas emissions.

AQ-1.10 Alternative Fuel Vehicle Infrastructure

County shall support the development of necessary facilities and infrastructure needed to encourage the use of low or zero-emission vehicles (e.g. electric vehicle charging facilities and conveniently located alternative fueling stations, including CNG filling stations.)

Tulare County Climate Action Plan

“The Tulare County Climate Action Plan (CAP) serves as a guiding document for County of Tulare (“County”) actions to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce fewer greenhouse gas emissions during Plan buildout. The CAP builds on the General Plan’s framework with more specific actions that will be applied to achieve emission reduction targets consistent with California legislation.”³⁷

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE’s electrical system.

IMPACT EVALUATION

Would the project:

- a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Project Impact Analysis: *Less than Significant Impact*

³⁷ Tulare County Climate Action Plan, page 1

The proposed Project is a solar photovoltaic (PV) generating facility comprised of solar modules, inverters, access roads, and electrical equipment. The proposed Project will include onsite substations, off-site overhead subtransmission and communications lines, on-site overhead and underground electrical facilities, and a control-equipment enclosure/operations and maintenance (O&M) building that will include space for several uses, including control equipment housing, shop space, and spare parts storage, with future uses to potentially include a worker break area and restroom.

GHG emissions from construction activities include carbon dioxide (CO₂) from on-road and off-road construction activities. Using the EMFAC2011 and OFFROAD2011 models, project construction GHG emissions were estimated at 4,984 metric tons/year of carbon dioxide equivalent (CO₂e). Detailed emission calculations are provided in Appendix B. Since construction emissions are temporary and CEQA significance thresholds for GHG emissions during construction have not been established, no further analysis is required at this time.

Operational GHG emissions were estimated based on fossil fuel burning activities associated with Tulare Solar Center staff, security, vendor deliveries, and PV panel washing activities. Emissions were quantified based on emissions factors derived from EMFAC2011 which can also be found in full detail in Appendix B of this document. CO₂e emissions from operations were estimated to be approximately 21 metric tons per year. This is less than the CEQA significance threshold of 230 metric tons per year of CO₂e as provided in SJVAPCD Policy APR 2015, Zero Equivalency Policy for Greenhouse Gases. Therefore, operation of the proposed Project would result in a less than significant impact to GHG emissions.

As reported in the 2011 Intergovernmental Panel on Climate Change (IPCC) Special Report on Renewable Energy Sources and Climate Change Mitigation, a PV Solar project would demonstrate 15-30 times less CO₂e emissions as compared to burning fossil fuels to achieve the same energy outputs. Although the Project would include maintenance activities, emissions from these activities are trivial when compared with conventional fossil-fueled electricity generation technologies and the associated operational GHGs emissions. The reductions in CO₂e emissions per MW of energy produced from this proposed Project would outweigh the comparatively small operational GHG impacts.

The proposed Project is expected to have a lifespan of 25 years with options to extend the operational life. Due to the transient nature of construction CO₂ emissions being amortized over the lifetime of the project, and accounting for CO₂ naturally decomposing in the atmosphere at an unknown rate, no threshold for significance has been established. As such, due to the nature of the project and the short duration of construction activities, GHG construction emissions are considered to be less than significant.

Cumulative Impact Analysis: ***Less than Significant Impact***

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality & Climate Impact Assessment for the Tulare Solar Center (Appendix B).

The strategies that CARB is implementing that may help in reducing the Project's GHG emissions are summarized in the table below in table 3.7-6.

**Table 3.7-3
Select CARB Greenhouse Gas Emission Reduction Strategies**

Strategy	Description of Strategy
Statewide Measures	
Vehicle Climate Change Standards ³⁸	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling ³⁹	In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.
Other Light-Duty Vehicle Technology ⁴⁰	New standards would be adopted to phase in beginning in the 2017 model year.
Requirements for In-use Strategies to Control Emissions from Diesel Engines ⁴¹	Regulation control emissions of particulate matter (PM) and oxides of nitrogen (NOx) from diesel-fueled diesel engines
Heavy-Duty Vehicle Emission Reduction Measures ⁴²	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

While it will not be practical for the proposed Project to implement all of these suggested strategies, legislatively driven changes in the future will further reduce the Project's GHG footprint during construction and the solar facility's operation.

Conclusion: *Less than Significant Impact*

The proposed Project would create less than significant amounts of Greenhouse Gas emissions and would therefore, have a less than significant impact to this impact assessment area.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project Impact Analysis: *No Impact*

The proposed 80 MW Tulare Solar Center is consistent with the CARB AB32 scoping plan, as well as, the State's Renewable Portfolio Standard (RPS) which call for an increase of renewable electricity in the State of California. The intent of the scoping plan is to reduce California's GHG emissions in accordance with AB32 goals and policies. The very nature of

³⁸Climate Change Emissions Standards for Vehicles <http://www.arb.ca.gov/cc/ccms/factsheets/ccfaq.pdf>

³⁹Heavy Duty Vehicle Idling Emission Reduction Program, <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>

⁴⁰ Ibid.

⁴¹ CARB, http://www.arb.ca.gov/diesel/verdev/reg/procedure_march2011.pdf

⁴²CARB, <http://www.arb.ca.gov/cc/hdghg/hdghg.htm>

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<http://www.arb.ca.gov/cc/ccms/factsheets/ccfaq.pdf>

Heavy Duty Vehicle Idling Emission Reduction Program, <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>

Hazards and Hazardous Materials

Chapter 3.8

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Hazards and Hazardous Materials and therefore, no mitigation measures are required. A Phase I Environmental Site Assessment was conducted by Advantage Environmental Consultants, LLC and is included as Appendix E. The impact analysis and determinations in this chapter are based on information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Hazards and Hazardous Materials

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Hazards and Hazardous Materials. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

DEFINITIONS

Hazardous Material:

“A hazardous material is defined by the California Code of Regulations (CCR) as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10).”¹

Hazardous Wastes:

“Similarly, hazardous wastes are defined as materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. According to Title 22 of the CCR, hazardous materials and hazardous wastes are classified according to four properties: toxic, ignitable, corrosive, and reactive (CCR, Title 22, Chapter 11, Article 3).”²

¹ Tulare County General Plan, Background Report, 8-26.

² Ibid. 8-26.

Hazardous Waste Generators:

“Hazardous waste generators can be classified in three groups depending on the quantity of waste generated in any month. A Conditionally Exempt Small Quantity Generator (CESQG) is defined in regulation as a generator of less than 100 kilograms of hazardous waste in a calendar month. A Small Quantity Generator (SQG) is a generator of greater than 100 kg and less than 1000 kg of hazardous waste in a calendar month. A Large Quantity Generator (LQG) generates greater than 1000 kg of hazardous waste in a calendar month. Determination of whether a facility is a CESQG, SQG, or LQG is the responsibility of the generator. The designation may change during the year, based on the quantity of hazardous waste produced during a particular month. Specific hazardous waste materials may also be exempt from the monthly total quantity. Therefore, the Certified Unified Program Agencies (CUPA) cannot authoritatively designate the number of generators within each of the above categories.”³

Small Quantity Generators:

“CUPA has designated 58 active and 30 inactive small quantity generators (SQG’s). The total estimated quantities of hazardous waste generated within Tulare County by active and inactive SQG’s during calendar year 2002 were 121.7 and 56.3 tons, respectively.”⁴

Large Hazardous Waste Producers:

“CUPA has designated 23 active and 3 inactive large quantity generators (LQG’s). The total estimated quantities of hazardous waste generated within Tulare County by active and inactive LQG’s during calendar year 2002 were 559.7 and 121.6 tons, respectively.”⁵

Treatment Facilities:

“There are nine tiered permit facilities conducting onsite hazardous waste treatment in a total of eleven treatment processes in Tulare County. An estimated total of 10,549 tons of hazardous waste per year is treated by these facilities. The three highest-volume hazardous waste types treated are:

- 1. Unspecified Aqueous Solution— 6,028 tons;*
- 2. Aqueous Solution with Metals – 3,570 tons; and*
- 3. Liquids with Chromium6+ greater than 500 mg/L – 741 tons.”⁶*

³ Tulare County General Plan, *Background Report*, pages 8-28 to 8-29.

⁴ *Ibid*, page 8-29.

⁵ *Ibid*.

⁶ *Ibid*, page 8-30.

Storage Facilities:

“According to available information from the agencies (Department of Toxic Substances Control [DTSC] and Regional Water Quality Control Board [RWQCB]) that oversee treatment, storage and disposal facilities (TSDFs), there are no facilities authorized for the storage of hazardous waste in Tulare County.”⁷

Disposal Facilities:

“According to available information from the agencies (DTSC and RWQCB) that oversee treatment, storage and disposal facilities (TSDFs), there are no facilities authorized for the disposal of hazardous waste in Tulare County.”⁸

Planned Treatment, Storage and Disposal Facilities:

“According to information available to the CUPA, there are no new treatment, storage and disposal facilities proposed in Tulare County.”⁹

ABBREVIATIONS

(AEC)	Advantage Environmental Consultants, LLC
(CCR)	California Code of Regulations
(CERCLA)	Comprehensive Environmental Response, Compensation and Liability Act
(CESQG)	Conditionally Exempt Small Quantity Generator
(CUPA)	Certified Unified Program Agencies
(DOE)	Department of Engineering
(DTSC)	Department of Toxic Substances Control
(HMTA)	Hazardous Materials Transportation Act of 1975
(HWMP)	Hazardous Waste Management Program
(HWTS)	Hazardous Waste Tracking System
(LQG)	Large Quantity Generators
(NCP)	National Contingency Plan
(RCRA)	Resource Conservation and Recovery Act
(RWQCB)	Regional Water Quality Control Board
(SARA)	Superfund Amendments and Reauthorization Act
(SQG)	Small Quantity Generator
(TSDF)	Treatment, storage and disposal facilities
(WDR)	Waste Discharge Requirements

CEQA THRESHOLDS OF SIGNIFICANCE

⁷ Ibid.

⁸ Ibid.

⁹ Tulare County General Plan 2030 Update, Background Report, page 8-30

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- Be located on a site which is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

ENVIRONMENTAL SETTING

Advantage Environmental Consultants, LLC performed a Phase I Environmental Site Assessment for the proposed Project in October 2012. The study, in its entirety, can be found in Appendix E.

Areas surrounding the Project are primarily utilized for agricultural purposes. Aside from some likely agricultural chemical use on agricultural properties in the vicinity, the current uses of the site and adjoining properties are not ones that are indicative of the use, treatment, storage, disposal or generation of significant quantities of hazardous substances or petroleum products.¹⁰

There are approximately 12 habitable structures within a 1,000 foot radius of the proposed Project site. Power poles and transmission lines are present along the site's northern easement and perimeter roads. Water at the site and its adjoining properties is provided by private water supply wells (deep and/or domestic). Electricity at the site and in the area is provided by Southern California Edison with natural gas provided by Southern California Gas Company. The area surrounding the site primarily consists of vacant land and agricultural properties. No significant environmental concerns were noted during Advance Environmental Consultants' (AEC's) reconnaissance of the site. In addition, no current uses of adjoining properties or properties in the surrounding vicinity were identified as a potential environmental concern to the

¹⁰ Appendix E

site.¹¹

Hazardous Waste Shipments Originating Within Tulare County

“A determination of the routes used to transport hazardous waste within Tulare County was performed by analysis of Hazardous Waste Tracking System (HWTS) data on hazardous shipments. Calendar year 2002 manifest data indicates that a total of 1,606 tons of hazardous waste was transported from all categories of generators in Tulare County.”¹² The quantities of hazardous waste transported from facilities located within each zip code in Tulare County are shown in the Table 3.8-1.

**Table 3.8-1
Transport of Hazardous Waste¹³**

Zip Code	Total Tons	Zip Code	Total Tons	Zip Code	Total Tons	Zip Code	Total Tons
93219	0.579	93221	19.100	93223	14.73	93227	6.792
93244	4.270	93247	36.370	93256	14.39	93257	155.000
93262	0.459	93271	4.463	93272	17.78	93274	146.700
93275	14.870	93277	407.80	93279	52.01	93286	7.152
93291	321.700	93292	25.600	93615	2.606	93618	139.100
93631	321.700	93647	65.630	93654	4.255	93673	4.915

Environmental Health Department Futures Assessment

“The Environmental Health Department, of which the CUPA is a part, anticipates a slight increase in the reported volume of hazardous waste generated within Tulare County in year 2003/04. However, EHD does not expect an increase in the actual volume of hazardous waste generated over the same period.”¹⁴

REGULATORY SETTING

Federal Agencies & Regulations

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act of 1975 (HMTA), as amended, is the major transportation-related statute affecting Department of Engineering (DOE). The objective of the HMTA according to the policy stated by Congress is “. . .to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against risks to life and property which are inherent in the transportation of hazardous materials in commerce.”¹⁵ The HMTA empowered the Secretary of Transportation to designate as hazardous

¹¹ Ibid.

¹² Tulare County General Plan 2030 Update, Background Report, page 8-31

¹³ Ibid.

¹⁴ Tulare County General Plan 2030 Update, Background Report, page 8-32.

¹⁵ The Office of Health, Safety and Security, *Hazardous Materials Transportation Act*, <http://www.hss.doe.gov/sesa/environment/policy/hmta.html>, Updated August 10, 2012.

material any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property."¹⁶

Regulations apply to ". . .any person who transports, or causes to be transported or shipped, a hazardous material; or who manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container which is represented, marked, certified, or sold by such person for use in the transportation in commerce of certain hazardous materials."¹⁷

Superfund

"Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly referred to as Superfund, were enacted on December 11, 1980. The purpose of CERCLA was to provide authorities with the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be identified. Additionally, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action."¹⁸

"Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund to \$8.5 billion, expanded EPA's response authority, strengthened enforcement activities at Superfund sites; and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required EPA to revise the Hazard Ranking System to ensure that the system accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List."¹⁹

State Agencies & Regulations

Hazardous Substance Account Act (1984), California Health and Safety Code Section 25300 ET SEQ (HSAA)

"This act, known as the California Superfund, has three purposes: 1) to respond to releases of hazardous substances; 2) to compensate for damages caused by such releases; and 3) to pay the states 10 percent share in CERCLA cleanups. Contaminated sites that fail to score above a certain threshold level in the EPA's ranking system may be placed on the California Superfund

¹⁶ Ibid.

¹⁷ The Office of Health, Safety and Security, *Hazardous Materials Transportation Act*, <http://www.hss.doe.gov/sesa/environment/policy/hmta.html>. Updated August 10, 2012.

¹⁸ Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-20.

¹⁹ Ibid, page 8-21.

list of hazardous wastes requiring cleanup.”²⁰

Cal/EPA Department of Toxic Substance Control (DTSC)

“Cal/EPA has regulatory responsibility under Title 22 of the California Code of Regulations (CCR) for administration of the state and federal Superfund programs for the management and cleanup of hazardous materials. The DTSC is responsible for regulating hazardous waste facilities and overseeing the cleanup of hazardous waste sites in California. The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement and Unified Program activities. HWMP maintains the EPA authorization to implement the Resource Conservation and Recovery Act (RCRA) program in California, and develops regulations, policies, guidance and technical assistance/ training to assure the safe storage, treatment, transportation and disposal of hazardous wastes. The State Regulatory Programs Division of DTSC oversees the technical implementation of the States Unified Program, which is a consolidation of six environmental programs at the local level, and conducts triennial reviews of Unified Program agencies to ensure that their programs are consistent statewide and conform to standards.”²¹

California Occupational Safety and Health Administration (Cal/OSHA)

“Cal/OSHA and the Federal OSHA are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, Federal OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal/OSHA assumes primary responsibility for developing and enforcing state workplace safety regulations. Because California has a federally General Plan Background Report December 2007 approved OSHA program, it is required to adopt regulations that are at least as stringent as those identified in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.”²²

Hazardous Materials Transport Regulations

“California law requires that Hazardous Waste (as defined in California Health and Safety Code Division 20, Chapter 6.5) be transported by a California registered hazardous waste transporter that meets specific registration requirements. The requirements include possession of a valid Hazardous Waste Transporter Registration, proof of public liability insurance, which includes coverage for environmental restoration, and compliance with California Vehicle Code registration regulations required for vehicle and driver licensing.”²³

²⁰ Ibid, page 8-22.

²¹ Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-22 to 8-23.

²² Ibid, page 8-23 to 8-24.

²³ Ibid, page 8-24.

Cal/EPA Cortese List

“The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act (CEQA).”²⁴ The Cortese List identifies the following:

- Hazardous Waster and Substance Sites
- Cease and desist order Sites
- Waste Constituents above Hazardous Waste Levels outside the Waste Management Unit Sites
- Leaking Underground Tank (LUST) Cleanup Sites
- Other Cleanup Sites
- Land Disposal Sites
- Military Sites
- Waste Discharge Requirements Sites
- Permitted Underground Storage Tank (UST) Facilities Sites
- Monitoring Wells Sites
- DTSC Cleanup Sites
- DTSC Hazardous Waste Permit Sites

Local Policy & Regulations

Tulare County Environmental Health Division

“The Tulare County Department of Public Health protects health, prevents disease, and promotes the health and well-being for all persons in Tulare County. Public Health focuses on the population as a whole, rather than individuals. We conduct our activities through a network of public health professionals throughout the community. Public health nurses make home visits to families with communicable diseases; epidemiologists investigate and analyze data on diseases; our emergency preparedness unit responds to health related emergencies and assists communities in recovery; environmental health specialists ensure safe food, water, and housing; health operations assures the quality and accessibility of health services; and all work with community coalitions to advocate for public policies to protect and improve health.”²⁵

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed as follows:

²⁴ Cal/EPA, *Background and History on "Cortese List" Statute*, <http://www.calepa.ca.gov/sitecleanup/corteselist/Background.htm>, Updated August 20, 2007.

²⁵ Tulare County Health & Human Services Agency, *Public Health Department Mission*, <http://www.tularehhsa.org/index.cfm/public-health/about-phd/>, 2013.

HS-4.1 Hazardous Materials

The County shall strive to ensure hazardous materials are used, stored, transported, and disposed of in a safe manner, in compliance with local, State, and Federal safety standards, including the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan.

HS-4.3 Incompatible Land Uses

The County shall prevent incompatible land uses near properties that produce or store hazardous waste.

HS-4.4 Contamination Prevention

The County shall review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Project Impact Analysis:

Less than Significant Impact

There are no known hazardous materials sites in the proposed Project vicinity. Construction of the proposed Project for both its on-and off-site components will require the transport and

use of small quantities of hazardous materials in the form of gasoline, diesel and oil. There is the potential for small leaks due to refueling of the construction equipment; however, standard construction Best Management Practices (BMPs) included in the SWPPP will reduce the potential for and clean-up in the unlikely event of spills or leaks of construction-related fuels and other hazardous materials. The BMP included in the SWPPP addresses storm water contamination, control the amount of runoff from the site, and require proper disposal or recycling of hazardous materials. All solid construction wastes will be disposed of or recycled by qualified service providers. In order to accommodate directing of construction materials to proper end-point destinations, contractors and workers will be educated on waste sorting, appropriate recycling storage areas, and measures to reduce landfill waste. Any hazardous wastes, in liquid or solid form, will be removed from the site by a licensed hazardous waste recycling or disposal firm.

Crystalline and amorphous silicon (c-Si) are used as the light-absorbing semiconductor in solar cells. Solar PV cells are assembled and manufactured prior to delivery and installation in solar fields at the site. The c-Si found in PV cells is bound in a substrate that will not readily expose the public to hazardous materials if broken during installation, maintenance, or during end of life disposal.

The proposed Project operation may require the storage of small amounts of hazardous materials, such as fuel and lubricants. The storage, transport, and use of these materials will comply with Local, State, and Federal regulatory requirements. Typical operations and maintenance activities will produce a less than 220 lbs of combined solid and liquid waste. The EPA considers businesses that produce less than 220 lbs of hazardous waste a Conditionally Exempt Small Quantity Generator, which are exempt from hazardous waste management regulations²⁶.

Project operation will employ a weed abatement plan that may require the use and storage of herbicides, pesticides, and rodenticide bait. Prior to site occupancy, a site pest management plan will be prepared to provide Tulare County with the information needed to evaluate vegetation and insect management activities associated with proposed Project construction, and operations and maintenance activities.

An Integrated Pest Management Plan (IPM) will be developed to monitor and control agricultural pests and noxious weeds, with the goal of minimizing the use of chemicals in managing the property.

Techniques and approaches that are expected to be utilized in developing the final IPM plan are:

1. Inventory and monitor plants and animals in the area which are potential pests in order to detect potential issues before populations build to levels that could create economic injury.

²⁶ Environmental Protection Agency, Managing Your Hazardous Waste, A guide for Small Businesses. <http://www.epa.gov/osw/hazard/generation/sqg/handbook/k01005.pdf>. Accessed July, 2013.

2. Develop strategies and control methods that are needed to keep the population of potential pests below critical threshold levels.
3. Utilize natural predators and ecosystem approaches to keep pest populations under control and below economic injury thresholds.
4. Use selective herbicides and pesticides when necessary to bring pest populations into balance.

Best management practices (BMPs) to be considered, and which may be incorporated as control strategies for various types of pests, include the following:

Noxious weeds:

- Maintain a ground cover of perennial grasses and herbs to reduce the amount of exposed bare soil that is attractive to invasive plant species.
- Utilize mechanical methods (mowing) or grazing to keep weeds low without disking or tilling.
- Utilize selective herbicides to target invasive noxious weeds.
- Monitor and manually remove noxious weeds before they become established.

Vertebrate Pests:

- Encourage natural predation by raptors by providing nesting and roosting habitat (i.e., barn owl boxes and roosting poles.)
- Monitor and selectively place rodenticide bait stations to prevent the establishment of large populations, particularly along perimeter roads and raised banks.
- Design solar arrays to allow occasional flooding, particularly during periods when large raptor populations are present.

Invertebrate Pests:

- Remove weeds and vegetation that can serve as a host to invertebrate pests.
- Control ant populations with boric acid bait stations around the perimeter of the facility.
- Monitor pests and participate in CDFA/USDA pest monitoring programs to detect target pests.
- Selectively apply insecticides and acaricides to control pest populations before economic injury thresholds are reached, using targeted, narrow-range materials whenever possible.

It is not anticipated that the use or storage of herbicides, pesticides, and rodenticide bait will create a significant hazard to the public due to the implementation of the above IPM. In addition to consultation with the Tulare County Agricultural Commissioner, Environmental Protection & Pest Management Division, a weed and pest control consultant will be retained to develop the IPM plan and monitor its implementation.

In addition, implementation of Tulare County General Plan policies will ensure that impacts from the handling, storage, transport, or accidental release of hazardous materials are less

than significant. The proposed Project will not create a significant hazard to the public or the environment, therefore, impacts will be less than significant.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project includes installation of a solar photovoltaic (PV) generating facility comprised of solar modules, inverters, access roads, and electrical equipment, off-site power line upgrades and fiber optic line installations. Any hazardous materials generated by the proposed Project will be disposed of in accordance with Local, State, and Federal regulations. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *Less than Significant Impact*

Potential Project specific impacts related to this checklist item will be less than significant. No cumulative impacts related to this checklist item will occur.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Project Impact Analysis: *No Impact*

The proposed Project includes the installation of a solar photovoltaic (PV) generating facility. The Project comprises solar modules, inverters, access roads, and electrical equipment. The Project will also include an onsite substation(s), off-site overhead sub-transmission and communications lines, on-site overhead and underground electrical facilities, and a control-equipment enclosure/operations and maintenance (O&M) building that will include space for several uses, including control equipment housing, shop space, and spare parts storage, with future uses to potentially include a worker break area and restroom.

The Project will not create a significant hazard to the public or the environment as it will not discharge hazardous materials into the environment. There will be no impact.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

No Project specific impacts will occur with implementation of the proposed Project. The proposed Project would not create a significant hazard to the public or the environment through foreseeable or accidental conditions involving the release of hazardous materials into the environment. . Therefore, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

No impacts related to this checklist item will result from the implantation of the proposed Project. There will be no impact.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Project Impact Analysis: *No Impact*

The proposed Project is not located within 0.25 mile of an existing or proposed school. The nearest school is Richgrove Elementary, approximately top miles to the southwest of the proposed Project area. The proposed Project involves construction of a solar generation facility and will not emit hazardous emissions, involve hazardous materials, or create a hazard to the school. As such, no Project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project site is not located within 0.25 mile of an existing or proposed school and will not involve the handling or emitting of hazardous materials. As such, no Project cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project specific or cumulative impacts related to this checklist item will occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Project Impact Analysis:

No Impact

During historical agricultural activities throughout the State of California, various pesticides and more specifically, organochlorine pesticides (OCPs), were commonly applied during the normal course of agricultural operations. Such compounds have since been banned from production and use in the United States. Section 105215 of the California Health and Safety Code discusses the regulatory reporting of incidents that pertain to pesticide spills and accidental releases of pesticide products. Based on the regulatory and historical research completed during the preparation of the Phase I Study, no information has been revealed that suggests that an accidental spill or release of pesticide products has occurred at the site. In addition, neither stressed vegetation, nor evidence of the storage of pesticides was observed on the property during the site reconnaissance or based on regulatory and historical research reviews.²⁷

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List". AEC reviewed standard regulatory record sources which included Federal, State and Local environmental databases provided by Environmental FirstSearch, for information pertaining to documented and/or suspected releases of regulated hazardous substances and/or petroleum products within specified search distance.²⁸ The proposed Project site, adjoining properties, and properties within one-mile were not listed in any of the searched databases. Other regulatory resources consulted during AEC's preparation of the site assessment also did not reveal environmental concerns in connection with the Site.²⁹

According to the EnviroStor database, the nearest known cleanup site is approximately 6 miles southwest of the Project site in Kern County. Dunlap Auxiliary Field #4 (ENVIROSTOR ID #80000238) is located at the northwest corner of Quality Road and Heart Avenue approximately 6 miles southeast of Delano. The site is designated as Formally Used Defensive Sites (FUDS), with confirmed or unconfirmed releases of explosive particles. The DTSC is involved via Site Cleanup Program in the investigation and/or remediation of the site. The site is an inactive and has been designated as a site that needs a Military Evaluation as of 7/1/2005. Although Dunlap Auxiliary Field #4 has been identifies a site that needs further investigation, there has been no formal site evaluation complete³⁰. Currently, only explosive remnants are assumed to be present on site as potential contaminants of concern as the site was used for military activity.³¹

Pursuant to Government Code Section 65962.5, the Project does not involve land that is listed as a hazardous materials site and is not included on a list compiled by the Department of Toxic Substances Control. There will be no impact, and no Project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis:

No Impact

²⁷ See Appendix E.

²⁸ Ibid.

²⁹ Ibid.

³⁰ California Department of Toxic Substance Control, <http://www.envirostor.dtsc.ca.gov/public/EnviroStor%20Glossary.pdf>

³¹ California Department of Toxic and Substance Control, http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=80000238 03/01/13.

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project area is not located on the Cortese List of hazardous materials, it is not listed as a hazardous materials site pursuant to Government Code Section 65962.5 and it is not included on a list compiled by the Department of Toxic Substances Control. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, no Project specific or cumulative impacts related to this checklist item will occur.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

Project Impact Analysis:

No Impact

The nearest airport to the proposed Project site is the San Joaquin Sprayers Heliport, a private airstrip, located approximately 6.8 miles to the west. The proposed Project is not in the vicinity of a private airstrip. Delano Municipal Airport is located in Kern County approximately 10.2 miles south west of the proposed Project site. The proposed Project will not conflict with Tulare County Airport Land Use Plan policy. There will be no impact.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not result in the placement of new transmission lines or other structures sufficiently tall enough to interfere with the flight path of either airport. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted above, no Project specific or cumulative impacts related to this checklist item will occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Project Impact Analysis: *No Impact*

As discussed in response e) above, the Project is not in the vicinity of a private airstrip. The proposed Project would not result in a safety hazard for people residing or working in the Project area. No Project specific impacts will occur as a result of the proposed Project.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project is not located in the vicinity of airports or private airstrips, and will not result in the placement of new transmission lines or other structures sufficiently tall enough to interfere with air traffic in the area. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project specific or cumulative impacts related to this checklist item will occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Project Impact Analysis: *No Impact*

“Tulare County has in place an emergency plan to cope with natural disasters that are statewide or happen locally. The County Fire Department and local stationed California Department of Forestry [and Fire Protection] (CDF [now known as CalFire]) responds to fires locally as well as statewide. The United States Forest Service (USFS) is in charge of fires that [occur] in the national parks and Tulare County assists with the fire management process as needed.”³²

³² Tulare County Association of Governments (TCAG), 2011 *Regional Transportation Plan*, 1-11.

“In the event of a disaster, certain facilities are critical to serve as evacuation centers, provide vital services, and provide for emergency response. Existing critical facilities in Tulare County include hospitals, county dispatch facilities, electrical, gas, and telecommunication facilities, water storage and treatment systems, wastewater treatment systems, schools, and other government facilities. This plan also addresses evacuation routes, which include all freeways, highways, and arterials that are located outside of the 100-year flood plain.”³³

The proposed Project site is located along State Route 65, approximately 3.5 miles north of State Route 155 (in Kern County, and also known as Garces Highway) or four miles south of the Census Designated Place, Ducor (an unincorporated community in southern Tulare County). Porterville Highway (State Route 65) bi-sects the Project site in a north-to-south direction, approximately at the site’s east-west mid-point. Rural unpaved roads are adjacent to southern, western and eastern portions of the proposed Project site. A paved County road (Avenue 24) runs adjacent to the northern portion, and an unpaved road (Avenue 12) runs adjacent to the majority of the site’s southern boundary. Access and egress from the site would be via either Avenues 12 or 24 that connect to Highway 65, see Chapter 2, Figure 2-5 Aerial View.

The proposed pervious roads around the perimeter of the proposed Project are 20 feet wide, which is sufficient for fire trucks and other emergency vehicles to enter and exit the site. The proposed Project does not involve a change to any emergency response plan. As such, no Project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project does not include alterations to an emergency plan or include reductions of site accessibility by emergency vehicles. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None required.

Conclusion: *No Impact*

As noted earlier, no Project specific or cumulative impacts related to this checklist item will occur.

- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

³³ Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-35 to 8-36.

Project Impact Analysis:

No Impact

The proposed Project area is located in disturbed agricultural lands in an unincorporated area of southeast Tulare County. The site consists of undeveloped land that is zoned for agricultural use.

Perimeter gravel roads will be constructed around the facility at least 20 feet wide. These perimeter roads will provide a fire buffer in accordance with the requirements of the Tulare County Fire Department and accommodate proposed Project operation and maintenance activities. As part of the project, the applicant will coordinate with the Tulare County Fire Department to arrange site-specific training for first responders, construction workers, and operations and maintenance staff. The training will familiarize first responders and workers with the hazards and first-response requirements for a solar generation facility, and will include recommended techniques for fire suppression on PV and electrical systems. Combustible materials within the proposed Project and around the proposed Project boundary, including vegetation, will be actively managed by operations and maintenance personnel to minimize fire risks. Management of vegetation, in combination with the onsite, 20-foot-wide access roads will effectively serve to limit paths of any potential onsite fires.

Implementation of these project components will minimize the risk of any onsite fire. In addition, the Project area does not fit the definition of, nor will it be considered to be located within, a wildlands area. Therefore, the proposed Project will not expose people or structure to wildland fires. No Project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The Project site is not located in wildland and will not impact the growth of wildlands. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted above, no Project specific or cumulative impacts related to this checklist item will occur.

REFERENCES

Tulare County 2030 General Plan, *Background Report*

Phase I Environmental Site Assessment, AEC Project No. 12-131SD, Advantage Environmental Consultants, LLC, October 2012

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Hydrology and Water Quality

Chapter 3.9

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Hydrology and Water Quality providing the mitigation measures recommended below are adopted as conditions of approval of the Special Use Permit. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Hydrology and Water Quality

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Hydrology and Water Quality. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in 15126.2 a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision will have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”¹

The environmental setting provides a description of the Hydrology and Water Quality in the County. The regulatory setting provides a description of applicable Federal, State and Local

¹ 2012 CEQA Guidelines, page 154

regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

ABBREVIATIONS

(CVP)	Central Valley Project
(DO)	Dissolved Oxygen
(FEMA)	Federal Emergency Management Agency
(OCAP)	Operating Criteria and Plan
(SWP)	State Water Project
(SWRCB)	State Water Resources Control Board

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance.

- Project not in compliance with the regulations outlined by the State Water Resources Control Board.
- Project not in compliance with the regulations by the Regional Water Quality Control Board.
- Design of stormwater facilities will not adequately protect surface water quality
- Project will cause erosion.
- Project will alter watercourse and increase flooding impacts.
- Project's water usage not assessed in the Tulare County 2030 General Plan (General Plan Amendment, Zone Change, etc.)
- Project that will impact service levels of a Water Services District
- Project includes or requires an expansion of a Water Service District
- Project in flood zone
- Project will create a flood safety hazard
- Project located immediately downstream of a dam

ENVIRONMENTAL SETTING

"The Tulare Lake Hydrologic Region covers approximately 10.9 million acres (17,050 square

miles) and includes all of Kings and Tulare counties and most of Fresno and Kern counties.. The southern portion of the San Joaquin Valley is subdivided into two separate basins, the San Joaquin and the Tulare, by a rise in the valley floor resulting from an accumulation of alluvium between the San Joaquin River and the Kings River fan. The valley floor in this region had been a complex series of interconnecting natural sloughs, canals, and marshes.”²

“The Basin is one of the most important agricultural centers of the world. Industries related to agriculture, such as food processing and packaging (including canning, drying, and wine making), are prominent throughout the area. Producing and refining petroleum lead non-agricultural industries in economic importance.”³

The Tulare Lake Hydrologic Region has both watershed areas (surface water) and groundwater sub basin areas, as seen in Figure 3.9-1.

Watershed (Surface Water)

“The Tulare Lake region is divided into several main hydrologic subareas: the alluvial fans from the Sierra foothills and the basin subarea (in the vicinity of the Kings, Kaweah, and Tule rivers and their distributaries); the Tulare Lake bed; and the southwestern uplands. The alluvial fan/basin subarea is characterized by southwest to south flowing rivers, creeks, and irrigation canal systems that convey surface water originating from the Sierra Nevada. The dominant hydrologic features in the alluvial fan/basin subarea are the Kings, Kaweah, Tule, and Kern rivers and their major distributaries.”⁴

The White River drainage is just south of the Tule River drainage. The Tule subbasin includes the White River drainage, which is similar to the region described in the California Water Plan Update in the preceding paragraph, with west and southwest-flowing streams, creeks, drainages and irrigation facilities conveying surface water to the Valley floor.

“Surface water from the Tulare Lake Basin only drains north into the San Joaquin River in years of extreme rainfall. This essentially closed basin is situated in the topographic horseshoe formed by the Diablo and Temblor Ranges on the west, by the San Emigdio and Tehachapi Mountains on the south, and by the Sierra Nevada Mountains on the east and southeast.”⁵

Surface Water Quality

“Surface water quality in the Basin is generally good, with excellent quality exhibited by most eastside streams. The Regional Water Board intends to maintain this quality.”⁶ Specific objectives outlined in the Water Quality Control Plan are listed below:⁷

² California Water Plan Update 2009, Tulare Lake, page TL-5

³ Water Quality Control Plan for the Tulare Lake Basin, page I-1

⁴ California Water Plan Update 2009, Tulare Lake, page TL-8

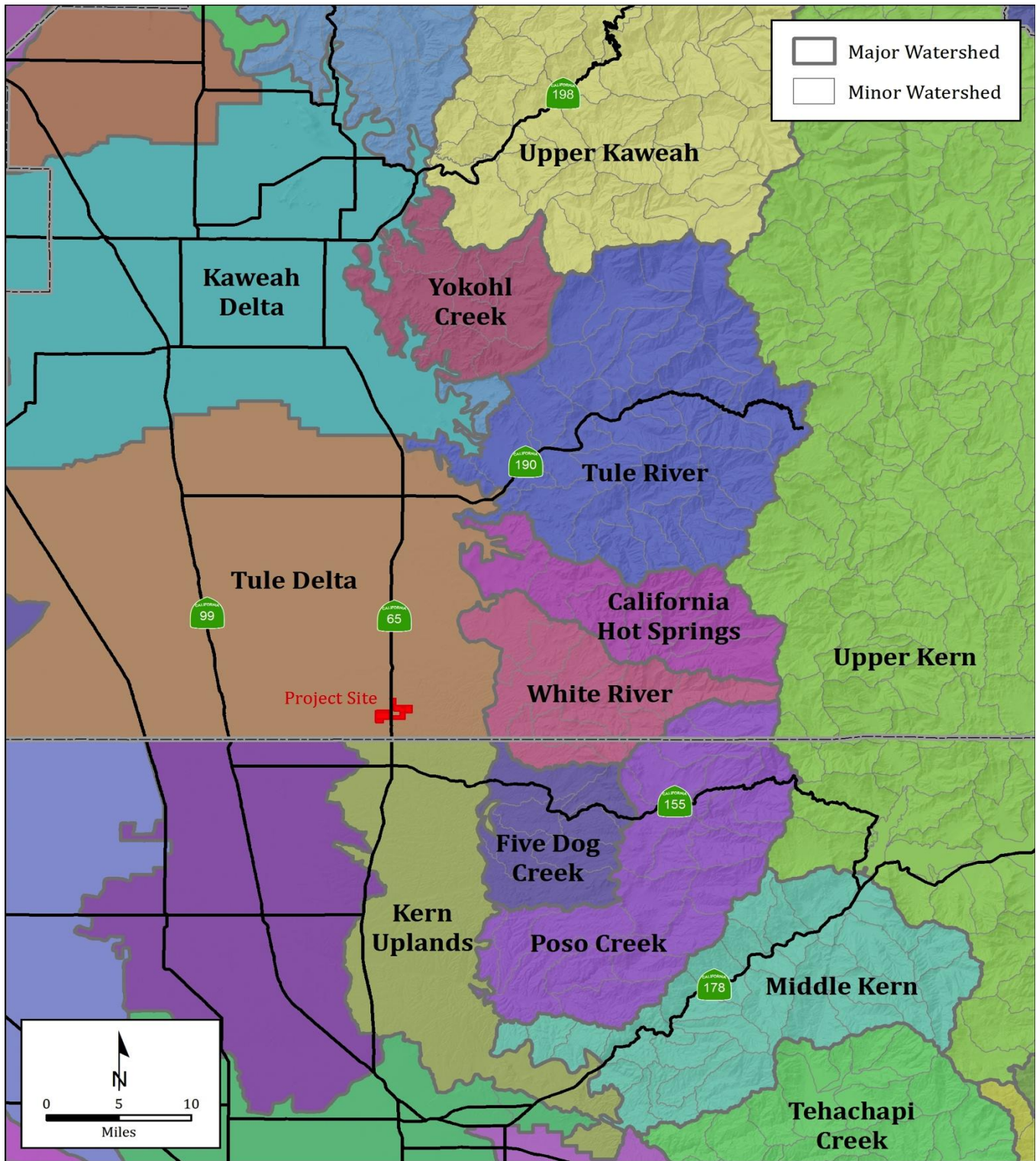
⁵ Water Quality Control Plan for the Tulare Lake Basin, page I-1

⁶ Ibid., page III-3

⁷ Ibid., page III-2 to III-7

- **Ammonia:** Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in receiving waters.
- **Bacteria:** In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200 MPN /100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400 MPN /100 ml.

**Figure 3.9-1
Watershed Map**



2/28/2013 V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINAL\watershed.mxd

- **Biostimulatory Substances:** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
- **Chemical Constituents:** Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
- **Color:** Waters shall be free of discoloration that causes nuisance or adversely affects beneficial uses.
- **Dissolved Oxygen:** Waste discharges shall not cause the monthly median dissolved oxygen concentrations (DO) in the main water mass (at centroid of flow) of streams and above the thermocline in lakes to fall below 85 percent of saturation concentration, and the 95 percentile concentration to fall below 75 percent of saturation concentration.
- **Floating Material:** Waters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
- **Oil and Grease:** Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
- **pH:** The pH of water shall not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH.
- **Pesticides:** Waters shall not contain pesticides in concentrations that adversely affect beneficial uses.
- **Radioactivity:** Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life
- **Salinity:** Waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use of the water resources.
- **Sediment:** The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
- **Settleable Material:** Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
- **Tastes and Odors:** Waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable

tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.

- **Temperature:** Natural temperatures of waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.
- **Toxicity:** All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life...
- **Turbidity:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Surface Water Supply

“Surface water supplies for the Tulare Lake Basin include developed supplies from the Central Valley Project (CVP), the State Water Project (SWP), rivers, and local projects. Surface water also includes the supplies for required environmental flows. Required environmental flows are comprised of undeveloped supplies designated for wild and scenic rivers, supplies used for instream flow requirements, and supplies used for Bay-Delta water quality and outflow requirements. Finally, surface water includes supplies available for reapplication downstream. Urban wastewater discharges and agricultural return flows, if beneficially used downstream, are examples of reapplied surface water.”⁸

“Along the eastern edge of the valley, the Friant-Kern Canal is used to divert San Joaquin River water from Millerton Lake for delivery to agencies extending into Kern County. All of the Tulare Lake region’s streams are diverted for irrigation or other purposes, except in the wettest years. Historically, they drained into Tulare Lake, Kern Lake, or adjacent Buena Vista Lake. The latter ultimately drained to Tulare Lake, which is about 30 feet lower in elevation.”⁹

“The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada Mountains, are of excellent quality and provide the bulk of the surface water supply native to the Basin. Imported surface supplies, which are also of good quality, enter the Basin through the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta- Mendota Canal. Adequate control to protect the quality of these resources is essential, as imported surface water supplies contribute nearly half the increase of salts occurring within the Basin.”¹⁰

Ground Water Sub Basin

“The Tulare Lake Hydrologic Region has 12 distinct groundwater basins and seven subbasins of the San Joaquin Valley Groundwater Basin, which crosses north into the San Joaquin River Hydrologic Region. These basins underlie approximately 5.33 million acres (8,330 square miles) or 49 percent of the entire hydrologic region. Groundwater has historically been important to both urban and agricultural uses, accounting for 41 percent of the region’s total annual supply

⁸ General Plan Background Report, page 10-7

⁹ California Water Plan Update 2009, Tulare Lake, page TL-5

¹⁰ Water Quality Control Plan for the Tulare Lake Basin, page I-1

and 35 percent of all groundwater use in the state. Groundwater use in the region represents about 10 percent of the state's overall water supply for agricultural and urban uses.”¹¹

The Project area is within the Tule sub-basin of the San Joaquin Valley Groundwater Basin within the Tulare Lake Hydraulic Region.

“Water agencies in the Tulare Lake region have been practicing conjunctive use for many years to manage groundwater and assist dry year supplies. Groundwater recharge is primarily from rivers and natural streambeds, irrigation water percolating below the root zone of irrigated fields, direct recharge from developed ponding basins and water banks, and in-lieu recharge where surface water is made available in-lieu of groundwater pumping. Some water agencies accomplish recharge by directing available water into existing natural streambeds and sloughs, and others encourage application of water, when available, on farmed fields. The Deer Creek and Tule River Authority provides an example of how groundwater management activities can be coordinated with other resources. The authority, in conjunction with the US Bureau of Reclamation, has constructed more than 200 acres of recharge basins as part of its Deer Creek Recharge-Wildlife Enhancement Project. When available, the project takes surplus water during winter months and delivers it to the basins, which serve as winter habitat for migrating waterfowl, creating a significant environmental benefit. Most of the water also recharges into the underlying aquifer, thereby benefiting the local groundwater system.”¹²

Groundwater Quality

Specific objectives outlined in the Water Quality Control Plan are listed below: ¹³

- **Bacteria:** In ground waters designated MUN, the concentration of total coliform organisms over any 7-day period shall be less than 2.2 MPN/100 ml.
- **Chemical Constituents:** Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
- **Pesticides:** No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
- **Radioactivity:** Radionuclides shall not be present in ground waters in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.
- **Salinity:** All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources.
- **Tastes and Odors:** Ground waters shall not contain taste- or odor producing substances in

¹¹ California Water Plan Update 2009, Tulare Lake, page TL-9 to TL-10

¹² Ibid, page TL-10

¹³ Water Quality Control Plan for the Tulare Lake Basin, page III-7 to III-8

concentrations that cause nuisance or adversely affect beneficial uses.

- **Toxicity:** Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s).

According to the California Water Plan, the key ground water quality issues include the following.¹⁴

Salinity: Salinity is the primary contaminant affecting water quality and habitat in the Tulare Lake region. Because the groundwater basin in the San Joaquin Valley portion of the region is an internally drained and closed basin, salts, much of which are introduced into the basin with imported water supplies, build up in the soil and groundwater. Salt contained in the imported water supply is the primary source of salt circulating in the Tulare Lake region. The California Aqueduct, Friant-Kern Canal, and to a less extent Delta Mendota Canal supply most of the higher quality surface irrigation water in the Tulare Lake region. The quality of this supply may be impaired by the recirculation of salts from the San Joaquin River to the Delta Mendota Canal intake pump, leading to a greater net accumulation of salts in the basin. Delivery data from the two major water projects in California indicate there is a substantial amount of salt being transported from the Delta to other basins throughout the state. Annual import of salt into the Tulare Lake region is estimated to be 1,206 thousand tons of salt. In situ dissolution of salts and pumping from the underlying confined aquifer are important secondary sources.

Sedimentation and Erosion: In the Central Valley, erosion is occurring from the headwaters down to the valley floor. Although naturally occurring, erosion can be accelerated by timber harvest activities, land use conversion, rural development, and grazing. Excessive soil erosion and sediment delivery can impact the beneficial uses of water by (1) silting over fish spawning habitats; (2) clogging drinking water intakes; (3) filling in pools creating shallower, wider, and warmer streams and increasing downstream flooding; (4) creating unstable stream channels; and (5) losing riparian habitat. Timber harvesting in the riparian zone can adversely affect stream temperatures by removing stream shading, a concern for spawning and rearing habitat for salmonids. Thousands of miles of streams are potentially impacted, and the lack of resources has prevented a systematic evaluation of these impacts.

Nitrates and Groundwater Contaminates: Groundwater is a primary water supply, but in many places it is impaired or threatened because of elevated levels of nitrates and salts that are derived principally from irrigated agriculture, dairies, discharges of wastewater to land, and from disposal of sewage from both community wastewater systems and septic tanks. As population has grown, many cities have struggled to fund improvements in wastewater systems. High TDS content of west-side water is due to recharge of stream flow originating from marine sediments in the Coast Range.

Naturally occurring arsenic and human-made organic chemicals—pesticides and

¹⁴ California Water Plan Update 2009, Tulare Lake, page TL-22 to TL-24

industrial chemicals—in some instances have contaminated groundwater that is used as domestic water supplies in this region. In some cases, nitrates are from natural sources. Agricultural pesticides and herbicides have been detected throughout the valley, but primarily along the east side where soil permeability is higher and depth to groundwater is shallower. The most notable agricultural contaminant is DBCP, a now-banned soil fumigant and known carcinogen once used extensively on grapes.

Groundwater Supply

“Surface water supplies tributary to or imported for use within the Basin are inadequate to support the present level of agricultural and other development. Therefore, ground water resources within the valley are being mined to provide additional water to supply demands.”¹⁵

“Tulare Lake region’s groundwater use rises and falls contingent on the availability of both local and imported surface supplies. The management of water resources within this region is a complex activity and critical to the region’s agricultural operations. Local annual surface supplies are determined by the amount of runoff from the Sierra Nevada watersheds, the flows captured in local reservoirs, and carryover storage over a series of years. Imported surface supply availability is contingent not only on runoff in any year or series of years but also by regulations determining the amount of water that can be pumped month to month from the Sacramento-San Joaquin River Delta due to fishery and other concerns. The recent San Joaquin River settlement will reduce the overall volume of water available for diversion into the Friant-Kern Canal. The new biological opinion on the Operating Criteria and Plan (OCAP) for the SWP and CVP will impact surface water supplies to south-of-Delta water users.”¹⁶

“Groundwater in Tulare County occurs in an unconfined state throughout, and in a confined state beneath its western portion. Extensive alluvial fans associated with the Kings, Kaweah, and Tule Rivers provide highly permeable areas in which groundwater in the unconfined aquifer system is readily replenished. Interfan areas between the streams contain less permeable surface soils and subsurface deposits, impeding groundwater recharge and causing well yields to be relatively low. The mineral quality of groundwater in Tulare County is generally satisfactory for all uses.”¹⁷

“Groundwater recharge is primarily from natural streams, other water added to streambeds, from deep percolation of applied irrigation water, and from impoundment of surface water in developed water bank/percolation ponds.”¹⁸

“The Tulare Lake region has experienced water-short conditions for more than 100 years, which has resulted in a water industry that has consciously developed—through careful planning, management and facility design—the possibility of a shortage occurring in any year. Water demand is more or less controlled by available, reliable long-term water supplies. Over the years, agricultural acreage has risen and dropped largely based on water supplies. The region initially developed with surface water supplies; but local water users learned these supplies could widely vary in volume from year to year and drought conditions could quickly develop. The

¹⁵ Water Quality Control Plan for the Tulare Lake Basin, page I-1

¹⁶ California Water Plan Update 2009, Tulare Lake, page TL-15 to TL-17

¹⁷ Tulare County General Plan 2030 Update, Background Report, February 2010, page 10-11

¹⁸ California Water Plan Update 2009, Tulare Lake, page TL-17

introduction of deep well turbines resulted in a dramatic rise in groundwater use in the early 1900s, subsequently resulting in dropping groundwater levels and land subsidence. Surface water storage and conveyance systems built to alleviate the overuse of groundwater provided an impounded supply of water that could be used during years with deficient surface water. This resulted in a regional reliance on conjunctive water use in the development of the local water economy. Efforts to address Delta environmental issues and the subsequent loss of surface water to the region is increasing groundwater use and creating concern that additional pumping will increase subsidence.”¹⁹

According to the 2009 California Water Plan, the water storage has varied between the 1998-2005, likely due to changing precipitation levels, as seen in Tables 3.9-1 and 3.9-2.

“Groundwater overdraft is expected to decline statewide by 2020. The reduction in irrigated acreage in drainage problem areas on the west side of the San Joaquin Valley is expected to reduce groundwater demands in the Tulare Lake region by 2020.”²⁰ According to the 2009 California Water Plan Update, it is anticipated that there will be a 550,000 acre-feet reduction in the water demand in the Tulare Lake Hydrologic Area under Current Growth trends. Slow & Strategic Growth may further decrease water demand, while Expansive Growth may increase water demand.

“There are 19 entities in Tulare County with active programs of groundwater management. These management programs include nearly all types of direct recharge of surface water. Groundwater recovery is accomplished primarily through privately owned wells. Among the larger programs of groundwater management are those administered by the Kaweah Delta Water Conservation District, the Kings River Water Conservation District, the Tulare Irrigation District, the Lower Tule Water Users Association, and the Alta Irrigation District, all utilizing water from the Friant-Kern Canal and local streams. The Kings River Water Conservation District covers the western county.”²¹ A table of irrigation districts can be seen in Table 3.9-3.

¹⁹ California Water Plan Update 2009, Tulare Lake, page TL-19

²⁰ Tulare County General Plan 2030 Update, Background Report, February 2010, page 10-11

²¹ Ibid., page 10-12

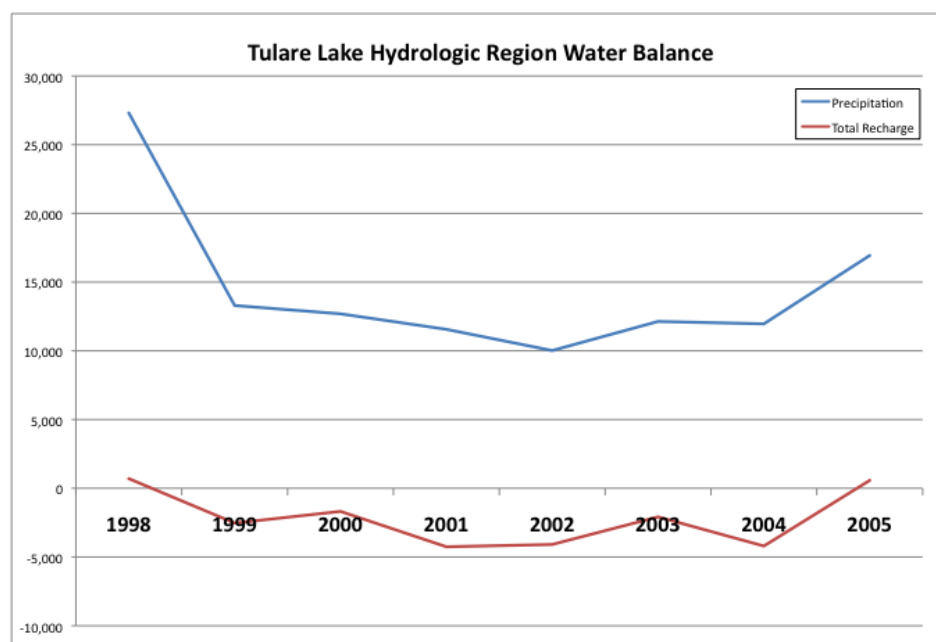
*Draft Environmental Impact Report
Tulare Solar Center*

Table 3.9-1²²
Tulare Lake Hydrologic water balance for 1998-2005 (thousand acre-feet)

Tulare Lake Region	Water Year							
	1998	1999	2000	2001	2002	2003	2004	2005
Water Entering the Region								
Precipitation	27,306	13,298	12,693	11,564	10,021	12,137	11,964	16,939
Inflow from Oregon/Mexico	0	0	0	0	0	0	0	0
Inflow from Colorado River	0	0	0	0	0	0	0	0
Imports from Other Regions	3,716	4,817	5,627	3,696	4,239	5,174	4,816	5,909
Total	31,022	18,115	18,320	15,260	14,260	17,311	16,780	22,848
Water Leaving the Region								
Consumptive Use of Applied Water	5,401	7,486	7,427	7,591	7,938	7,430	8,031	6,655
Outflow to Oregon/Nevada/Mexico	0	0	0	0	0	0	0	0
Exports to Other Regions	1,857	821	1,540	1,093	1,643	1,898	1,961	1,724
Statutory Required Outflow to Salt Sink	0	0	0	0	0	0	0	0
Additional Outflow to Salt Sink	457	456	457	458	305	458	457	300
Evaporation, Evapotranspiration of Native Vegetation, Groundwater Subsurface Outflows, Natural and Incidental Runoff, Ag Effective Precipitation & Other Outflows	22,606	11,885	10,578	10,374	8,462	10,327	10,532	13,596
Total	30,321	20,648	20,002	19,516	18,348	20,113	20,981	22,274
Storage Changes in Region: [+] Water added to storage, [-] Water removed from storage								
Change in Surface Reservoir Storage	438	-595	-57	-141	-161	173	-199	680
Change in Groundwater Storage	263	-1,938	-1,625	-4,115	-3,927	-2,975	-4,002	-106
Total	701	-2,533	-1,682	-4,256	-4,088	-2,802	-4,201	574

(This table does not include dairy usage)

Table 3.9-2²³



²² California Water Plan Update 2009, Tulare Lake, Department of Water Resources

²³ Ibid.

**Table 3.9-3
Irrigation Districts in Tulare County²⁴**

Entity	Surface Water	Imported Water Source	Groundwater Extraction
Alpaugh Irrigation District	NA	Friant-Kern Canal (1,000af average)	19,000 af
Alta Irrigation District	King River	Friant-Kern Canal (surplus)	230,000 af
Delano-Earlimart Irrigation District	NA	Friant-Kern Canal (146,050 af average)	8,000 af
Exeter Irrigation District	NA	Friant-Kern Canal (1,000 af average)	14,000 af
Hills Valley Irrigation District	NA	Cross Valley Canal (2,000 af average)	1,000 af
Ivanhoe Irrigation District	Kaweah River	Friant-Kern Canal (11,650 af average)	15,000 af
Kaweah Delta Water Cons. District	Kaweah River	Friant-Kern Canal (24,000 af average)	130,000 af
Kern-Tulare Water District	Kern River	Cross Valley Canal (41,000 af average)	33,000 af
Lindmore Irrigation District	NA	Friant-Kern Canal (44,000 af average)	28,000 af
Lower Tulare River Irrigation Dist.	Tule River	Friant-Kern Canal (180,200 af average) Cross Valley Canal (31,000 af average)	NA
Lindsay-Strathmore Irrigation District	NA	Friant-Kern Canal (24,150 af average)	NA
Orange Cove Irrigation District	NA	Friant-Kern Canal (39,200 af average)	30,000 af
Pioneer Water Irrigation District	Tule River		3,000 af
Pixley Irrigation District	NA	Friant-Kern Canal (1,700 af average) Cross Valley Canal (31,000 af average)	130,000 af
Porterville Irrigation District	Tule River	Friant-Kern Canal (31,000 af average)	15,000 af
Rag Gulch Water District	Kern River	Friant-Kern Canal (3,700 af average) Cross Valley Canal (13,300 af average)	
Saucelito Irrigation District	Tule River	Friant-Kern Canal (37,600 af average)	15,000 af
Stone Corral Irrigation District	NA	Friant-Kern Canal (10,000 af average)	5,000 af
Teapot Dome Irrigation District	NA	Friant-Kern Canal (5,600 af average)	
Terra Bella Irrigation District	NA	Friant-Kern Canal (29,000 af average)	2,000 af
Tulare Irrigation District	Kaweah River	Friant-Kern Canal (100,500 af average)	65,000 af

“The Tulare County Resource Management Agency maintains a list of special districts that provide sewer and/or water service that cannot currently meet the demand of new development projects. The list provided by Tulare County RMA (last updated April 30, 2007) indicates that following water and/or sewer districts are either under a temporary cease and desist order by the Regional Water Control Board prohibiting any new connections, or have other limitations for water and sewer connections.

- Alpaugh Joint Powers Authority Water District;
- Cutler Public Utility District;
- Delft Colony Zone of Benefit (County RMA);
- Earlimart Pubic Utility District;
- El Rancho Zone of Benefit (County RMA);
- Orosi Public Utility District;

²⁴ Bookman-Edmonston Engineering Inc. Water Resources Management in the Southern San Joaquin Valley, Table A-1.

- Pixley Public Utility District;
- Pratt Mutual Water Company;
- Richgrove Public Utility District;
- Seville Zone of Benefit (County RMA);
- Seville Water Company;
- Springville Public Utility District;
- Tooleville Zone of Benefit (County RMA);
- Traver Zone of Benefit (County RMA); and
- Wells Tract Zone of Benefit (County RMA).²⁵

Much of the County land is rural in nature and requires the use of private wells. If a project utilizes water from an existing irrigation district, then it will be up to the irrigation district to determine if the proposed Project could potentially create a significant impact related to water supply. An example of a potential impact could involve a need for a significant increase in the service levels of an irrigation district.

Flooding

“Flooding is a natural occurrence in the Central Valley because it is a natural drainage basin for thousands of watershed acres of Sierra Nevada and Coast Range foothills and mountains. Two kinds of flooding can occur in the Central Valley: general rainfall floods occurring in the late fall and winter in the foothills and on the valley floor; and snowmelt floods occurring in the late spring and early summer. Most floods are produced by extended periods of precipitation during the winter months. Floods can also occur when large amounts of water (due to snowmelt) enter storage reservoirs, causing an increase in the amount of water that is released.”²⁶

“Flood events in the Tulare Lake region are caused by rainfall, snowmelt, and the resultant rising of normally dry lakes. Although significant progress has been made to contain floodwaters in the region, improvements to the flood control system are still needed to lessen the flood risk to life and property.”²⁷

“Official floodplain maps are maintained by the Federal Emergency Management Agency (FEMA). FEMA determines areas subject to flood hazards and designates these areas by relative risk of flooding on a map for each community, known as the Flood Insurance Rate Map (FIRM). A 100-year flood is considered for purposes of land use planning and protection of property and human safety. The boundaries of the 100-year floodplain are delineated by FEMA on the basis of hydrology, topography, and modeling of flow during predicted rainstorms.”²⁸

“The flood carrying capacity in rivers and streams has decreased as trees, vegetation, and structures (e.g., bridges, trestles, buildings) have increased along the Kaweah, Kings, and Tule Rivers. Unsecured and uprooted material can be carried down a river, clogging channels and piling up against trestles and bridge abutments that can, in turn, give way or collapse, increasing blockage and flooding potential. Flooding can force waters out of the river channel and above its

²⁵Tulare County General Plan 2030 Update, Background Report, February 2010, page 7-33

²⁶ Ibid., page 8-13

²⁷ California Water Plan Update 2009, Tulare Lake, page TL-28 to TL-29

²⁸ Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-14

ordinary floodplain. Confined floodplains can result in significantly higher water elevations and higher flow rates during high runoff and flood events.”²⁹

“Dam failure can result from numerous natural or human activities, such as earthquakes, erosion, improper siting, rapidly rising flood waters, and structural and design flaws. Flooding due to dam failure can cause loss of life, damage to property, and other ensuing hazards. Damage to electric-generating facilities and transmission lines associated with hydro-electric dams could also affect life support systems in communities outside the immediate hazard area.”³⁰

REGULATORY SETTING

Federal Agencies & Regulations

Clean Water Act/NPDES

“The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. “Clean Water Act” became the Act’s common name with amendments in 1972... Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. We have also set water quality standards for all contaminants in surface waters... The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA’s National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.”³¹

Safe Drinking Water Act

“The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans’ drinking water. Under SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards... SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation’s public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. (SDWA does not regulate private wells which serve fewer than 25 individuals.)”³²

²⁹Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-14

³⁰ Ibid., page 8-17

³¹ EPA summary of the Clean Water Act – <http://www.epa.gov/lawsregs/laws/cwa.html>

³² EPA summary of the Safe Drinking Water Act – <http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm>

Environmental Protection Agency

The mission of EPA is to protect human health and the environment.

EPA's purpose is to ensure that:

- all Americans are protected from significant risks to human health and the environment where they live, learn and work;
- national efforts to reduce environmental risk are based on the best available scientific information;
- federal laws protecting human health and the environment are enforced fairly and effectively;
- environmental protection is an integral consideration in U.S. policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade, and these factors are similarly considered in establishing environmental policy;
- all parts of society -- communities, individuals, businesses, and state, local and tribal governments -- have access to accurate information sufficient to effectively participate in managing human health and environmental risks;
- environmental protection contributes to making our communities and ecosystems diverse, sustainable and economically productive; and
- the United States plays a leadership role in working with other nations to protect the global environment.”³³

Army Corps of Engineers

“The Department of the Army Regulatory Program is one of the oldest in the Federal Government. Initially it served a fairly simple, straightforward purpose: to protect and maintain the navigable capacity of the nation's waters. Time, changing public needs, evolving policy, case law, and new statutory mandates have changed the complexion of the program, adding to its breadth, complexity, and authority.

The Regulatory Program is committed to protecting the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands.”³⁴

National Flood Insurance Program

“In 1968, Congress created the National Flood Insurance Program (NFIP) to help provide a

³³ <http://www.epa.gov/aboutepa/whatwedo.html>

³⁴ Army Corps of Engineers <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx>

means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.”³⁵

State Agencies & Regulations

The Porter-Cologne Water Quality Control Act

“Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), the State Water Resources Control Board (State Board) has the ultimate authority over State water rights and water quality policy. However, Porter-Cologne also establishes nine Regional Water Quality Control Boards (Regional Boards) to oversee water quality on a day-to-day basis at the local/regional level.”³⁶

State Water Quality Control Board

“The State Water Resources Control Board (State Water Board) was created by the Legislature in 1967. The joint authority of water allocation and water quality protection enables the State Water Board to provide comprehensive protection for California’s waters. The State Water Board consists of five full-time salaried members, each filling a different specialty position. Board members are appointed to four-year terms by the Governor and confirmed by the Senate.”³⁷

Regional Water Quality Control Board

“There are nine Regional Water Quality Control Boards (Regional Boards). The mission of the Regional Boards is to develop and enforce water quality objectives and implementation plans that will best protect the State's waters, recognizing local differences in climate, topography, geology and hydrology. Each Regional Board has seven part-time members appointed by the Governor and confirmed by the Senate. Regional Boards develop “basin plans” for their hydrologic areas, issue waste discharge requirements, take enforcement action against violators, and monitor water quality.”³⁸

“The primary duty of the Regional Board is to protect the quality of the waters within the Region for all beneficial uses. This duty is implemented by formulating and adopting water quality plans for specific ground or surface water basins and by prescribing and enforcing requirements on all agricultural, domestic and industrial waste discharges. Specific responsibilities and procedures of the Regional Boards and the State Water Resources Control Board are contained in the Porter-Cologne Water Quality Control Act.”³⁹

³⁵ Flood Insurance Program Summary: http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp

³⁶ Porter-Cologne Water Quality Control Act Summary, http://ceres.ca.gov/wetlands/permitting/Porter_summary.html

³⁷ State Water Board Website, http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.shtml

³⁸ Ibid.

³⁹ Central Valley Water Quality Control Board, http://www.swrcb.ca.gov/centralvalley/about_us/

California Department of Water Resources⁴⁰

This Department's primary mission is to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments. Other goals include:

Goal 1 - Develop and assess strategies for managing the State's water resources, including development of the California Water Plan Update.

Goal 2 - Plan, design, construct, operate, and maintain the State Water Project to achieve maximum flexibility, safety, and reliability.

Goal 3 - Protect and improve the water resources and dependent ecosystems of statewide significance, including the Sacramento-San Joaquin Bay-Delta Estuary.

Goal 4 - Protect lives and infrastructure as they relate to dams, floods, droughts, watersheds impacted by fire and disasters, and assist in other emergencies.

Goal 5 - Provide policy direction and legislative guidance on water and energy issues and educate the public on the importance, hazards, and efficient use of water.

Goal 6 - Support local planning and integrated regional water management through technical and financial assistance.

Goal 7 - Perform efficiently all statutory, legal, and fiduciary responsibilities regarding management of State long-term power contracts and servicing of power revenue bonds.

Goal 8 - Provide professional, cost-effective, and timely services in support of DWR's programs, consistent with governmental regulatory and policy requirements.

Local Policy & Regulations

Tulare County Environmental Health Services

"The Environmental Health Services Division regulates retail food sales and hazardous waste storage and disposal; inspects contaminated sites and monitors public water systems, which protects and reduces the degradation of groundwater. The Division regulates the production and shipping of milk for Tulare and Kings Counties and also serves as staff to the Tulare County Water Commission appointed by the Board of Supervisors. The goal of the Health and Human Services Agency's Environmental Health division is to protect Tulare County's residents and visitors by ensuring that our environment is kept clean and healthy."⁴¹ This division requires water quality testing of public water systems.

⁴⁰ California Department of Water Resources website, <http://www.water.ca.gov/about/mission.cfm>

⁴¹ Tulare County Environmental Health Division, <http://www.tularehhsa.org/index.cfm/public-health/environmental-health/>

Any project that involves septic tanks and water wells within Tulare County is subject to approval by this agency. All recommendations provided by this division will be added as mitigation measures to ensure reduction of environmental impacts.

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

AG-1.17 Agricultural Water Resources

The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture.

HS-4.4 Contamination Prevention

The County shall review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination.

HS-5.2 Development in Floodplain Zones

The County shall regulate development in the 100-year floodplain zones as designated on maps prepared by FEMA in accordance with the following:

1. Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.
2. Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.
3. New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions.

HS-5.4 Multi-Purpose Flood Control Measures

The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.

HS-5.9 Floodplain Development Restrictions

The County shall ensure that riparian areas and drainage areas within 100-year floodplains are free from development that may adversely impact floodway capacity or characteristics of natural/riparian areas or natural groundwater recharge areas.

HS-5.11 Natural Design

The County shall encourage flood control designs that respect natural curves and vegetation of natural waterways while retaining dynamic flow and functional integrity.

WR-1.1 Groundwater Withdrawal

The County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply for existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on ground water resources identified during planning and approval processes.

WR-1.5 Expand Use of Reclaimed Wastewater

To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts

WR-1.6 Expand Use of Reclaimed Water

The County shall encourage the use of tertiary treated wastewater and household gray water for irrigation of agricultural lands, recreation and open space areas, and large landscaped areas as a means of reducing demand for groundwater resources.

WR-2.1 Protect Water Quality

All major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site.

WR-2.2 National Pollutant Discharge Elimination System (NPDES) Enforcement

The County shall continue to support the State in monitoring and enforcing provisions to control non-point source water pollution contained in the U.S. EPA NPDES program as implemented by the Water Quality Control Board.

WR-2.3 Best Management Practices (BMPs)

The County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board.

WR-2.4 Construction Site Sediment Control

The County shall continue to enforce provisions to control erosion and sediment from construction sites.

WR-2.5 Major Drainage Management

The County shall continue to promote protection of each individual drainage basin within the County based on the basins unique hydrologic and use characteristics.

WR-2.6 Degraded Water Resources

The County shall encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

WR-2.8 Point Source Control

The County shall work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the California Environmental Quality Act review and project approval process) and monitored to ensure long-term compliance.

WR-3.3 Adequate Water Availability

The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process, and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement.

WR-3.5 Use of Native and Drought Tolerant Landscaping

The County shall encourage the use of low water consuming, drought-tolerant and native landscaping and emphasize the importance of utilizing water conserving techniques, such as night watering, mulching, and drip irrigation.

WR-3.6 Water Use Efficiency

The County shall support educational programs targeted at reducing water consumption and enhancing groundwater recharge.

WR-3.10 Diversion of Surface Water

Diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Will the project:

a) Violate any water quality standards or waste discharge requirements?

Project Impact Analysis:

Less than Significant Impact

Stormwater (Surface Water Quality)

The Project area is located in the Tule River Watershed, along tributaries of the White River. The White River begins in the Sierra Nevada mountains and flows west and southwest, with water being used for agriculture. In years with very high runoff, excess flow which cannot be diverted for agriculture sometimes spills into the Tulare Lake Basin.

The proposed Project site is bisected by three natural drainages, all shown on USGS quadrangle maps as blue-line streams. None of the three natural drainages are named and all three drainages eventually reach the White River upstream of the White River's point of termination. Figure 3.9.2 shows the courses of the three drainages and summarized as follows as the northerly, central, and southerly drainages:

The most-northerly drainage enters Assessor's Parcel 339-110-06 flowing east to west. It crosses Parcel 339-110-06, crossing out the west boundary of that parcel just south of Avenue 24. Several hundred feet outside of the proposed Project area, this drainage merges with the central drainage described below.

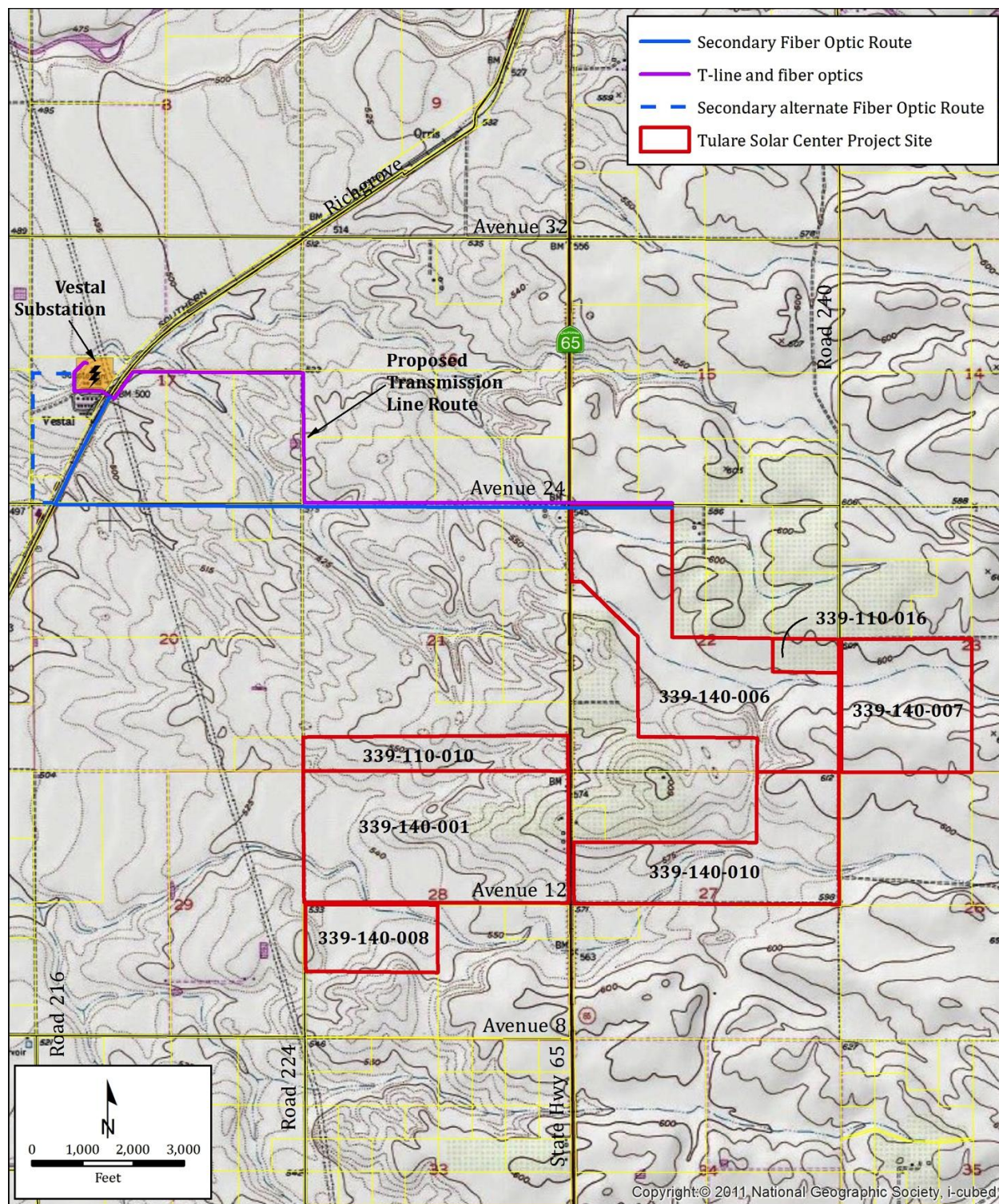
The central drainage enters Assessor's Parcel 339-100-07 flowing east to west, then meanders to the northwest through Assessor's Parcel 339-110-06, crossing out the west boundary of that parcel just south of Avenue 24.

The southerly drainage enters Assessor's Parcel 339-140-10 from the east. It flows west then south to the south boundary of Parcel 339-140-10 where it exits the project site. It re-enters the Project site along the east boundary of Parcel 339-140-08, flowing west and northwest through part of Parcel 339-140-08 and Parcel 339-140-01, and finally exiting the project area again along the west boundary of Parcel 339-140-01 just north of Avenue 12, as depicted on Figure 3.9-2.

The southerly drainage includes a Special Flood Hazard Area along its entire length within the project. FIRM Panel 06107C2325E shows this zone to range from 200 to 300 feet wide within the project area. This Special Flood Hazard Area is shown on Figure 3.9-3.

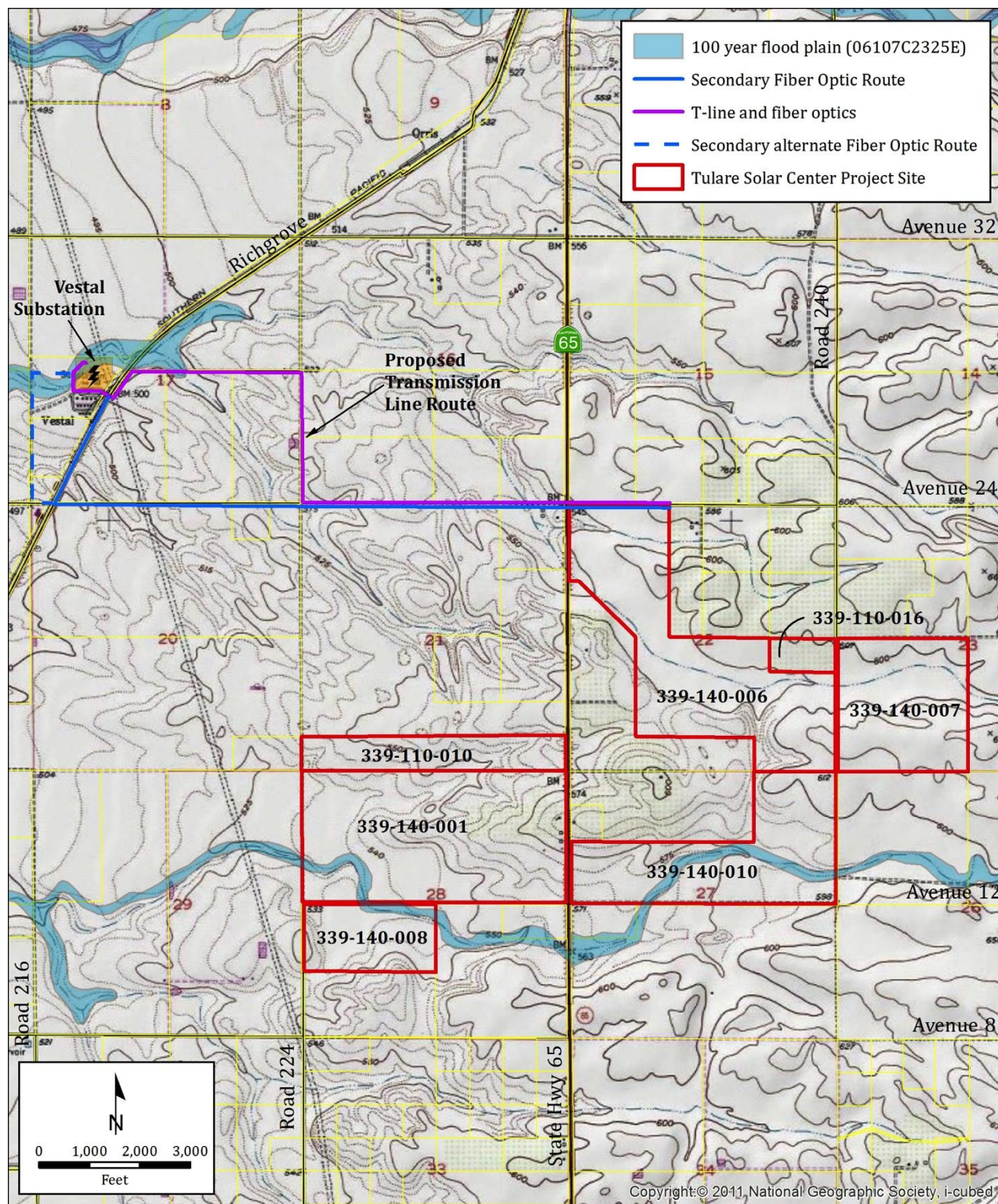
Although the proposed Project's off-site component (subtransmission and fiber optic lines) are also intersected by natural drainages along their routes, these SCE-owned facilities will be upgraded and installed according to prudent utility practices, and will not contribute to drainage problems or be impacted by stormwater flows.

Figure 3.9.2
Existing Drainage Patterns



2/28/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINAL\Drainage.mxd

Figure 3.9.3
Special Flood Hazard Areas



2/28/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINAL\SFHA.mxd

The Project areas naturally drain to one of the three drainages described earlier. Due to the low runoff coefficient of the undeveloped soil, very little water actually runs off of the Project area in its current state. Because the design of the solar facility adds less than one acre of impervious area to the Project site, the post-Project conditions will vary insignificantly from pre-Project conditions and, therefore, no significant water quality impacts will occur. Any increased runoff due to the proposed Project, up to a 100-year, 24 hour storm, will be retained, or sufficiently detained, on site. The existing site has over 1,100 acres of pervious surfaces (including windrows, retention basins, and dirt roadways). The Project will add less than one net acre of impervious surfaces, since the PV panels will be mounted on legs which actually cover only a very small area. The impervious area is not increased by the total area of the PV panels but rather by the area of any footings for panel racking legs, and the area of the foundations for the inverters, transformers, and control buildings or equipment enclosures.

The proposed Project will maintain all increase in storm water runoff on site (i.e., it will be designed such that post-project runoff conditions are at least equivalent to, not worse than, pre-Project conditions). The Central Valley Regional Water Quality Control Board (CVRWQCB) will be consulted and the proposed Project will apply for and obtain the appropriate NPDES permit, if such permit is required. A letter from the CVRWQCB to the County of Tulare will be required for the Project applicant to receive building permits and begin construction. The facility will comply with any regulations or procedures required by the state or regional water quality control board.

As described earlier in the document, other than precipitation, the only water used by the Project will be for panel washing. It is anticipated that washing will require approximately 0.37 AF/year of water. Spread over the 1,122 acre project site, this is approximately equivalent to an additional 0.004 inches of precipitation per year or an increase of about 0.04 percent in annual precipitation. And, since panel washing will occur during dry, sunny, dusty periods of the year, this water will either evaporate from the panels or be absorbed into the soils, and will not contribute significantly to site runoff.

As part of the National Pollutant Discharge Eliminations System (NPDES), the applicant will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and Storm Water Monitoring Plan (SWMP). Within this SWPPP/SWMP, it is noted that the proposed Project will comply with the General Permit for Industrial Dischargers (General Permit). As part of this compliance the applicant will; (1) demonstrate compliance with permit requirements, (2) evaluate changing conditions and practices at the site to control pollutants in stormwater discharges, (3) implement the SWPPP, and (4) measure effectiveness of BMPs. In addition, the General Permit requires annual testing and reporting of results to the CVRWQCB.

Ground Water Quality

Water usage on the site will consist of using water for dust-control down all travel ways and twice-annual washing of PV panels during the dry months, which will create little to no runoff. Any runoff that does not evaporate will be allowed to percolate into the ground's surface. All internal runoff created by the facility operations will therefore be contained on site and drainage patterns on the site will not be significantly altered as a result of Project

construction. The State Water Resources Control Board (SWRCB) requires any new construction project over an acre to complete a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. BMPs vary from site-to-site depending upon specific erosion risks, but often include a selection of the following:

- Silt fencing around the perimeter of the disturbed area to contain sediments before they can be transported off the site by runoff.
- Coverage of bare cut slopes by straw matting and/or hydroseeding, to limit erosion of cut slopes during precipitation events.
- Establishment of specific site entrance/exit paths covered in clean stone or aggregate base, to limit the amount of construction site soil tracked onto surrounding roads by construction traffic.
- Establishment of designated concrete wash-out areas, to contain and control concrete truck wash-out debris during construction.
- Construction of sedimentation basins, to allow quiescent settling of runoff before discharge into neighboring streams, limiting the amount of sediment discharge. (These are more effective with larger-grained soils. Finer grain soils don't settle well and require more aggressive removal such as the following.)
- Active Treatment Systems, where site runoff is captured in a pond and actively filtered to remove fine-grain soil particles prior to discharge to neighboring streams. This method is used only when absolutely necessary to meet discharge requirements, as it is quite costly to implement.

Implementation of the SWPPP will minimize the potential for the proposed Project to substantially alter the existing drainage pattern in a manner that will result in substantial erosion or siltation onsite or offsite.

As proposed, less than significant Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis:

Less than Significant Impact with Mitigation

The geographic area of this cumulative analysis is the Tulare Lake Basin. This cumulative analysis is based on information provided in the Water Quality Control Plan for the Tulare Lake Basin and the requirements of the Tulare County Environmental Health Department.

The proposed Project will be required to comply with the all requirements of the Central Valley Water Board and Tulare Health Services Division (TCEHSD). Additionally, with the mitigation measures provided below, the proposed Project will not conflict with any water

quality standards or waste discharge requirements. Therefore, less than significant cumulative impacts related to this Checklist item will occur.

Mitigation Measure:

3.9-1 Drainage and Pond Plans. Drainage and pond plans will be reviewed and approved by the Central Valley Regional Water Quality Control Board and may require a National Pollution Discharge and Elimination System (NPDES) permit. The on site drainage will also be reviewed by Tulare County Environmental Health and the Public Works Department to verify that the site does in fact contain the 100 year / 24 hour event per the Central Valley Regional Water Quality Control Board standards.

Conclusion:

Less than Significant Impact

As noted above, no significant impacts related to this checklist item will occur.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?**

Project Impact Analysis:

Less than Significant Impact

As noted in the water usage analysis, agricultural activities typically use three feet of water per acre per year; however, the Project site is and has historically been dryland farmed. The proposed Project will use an estimated 120,000 gallons of water per year at full-buildout of the 80 MW facility for washing the solar panels. This amounts to 0.37 acre-feet of water per year, or approximately 0.0003 AF/acre or 0.01% of typical agricultural usage.

In the 2009 Update to the California Water Plan, Table TL-3 shows the overall water use within the Tulare Lake Basin which ranges between approximately 12.5 and 13.5 million AF per year. Of this use, between 2.7 and 6.9 million AF per year are supplied from groundwater. In the driest years, when more water is supplied from the groundwater aquifer than through surface water supplies, overall change in surface and groundwater storage ranges from -4.0 to -4.2 million acre feet. The California Water Plan makes no direct attempt to calculate sustainable yield of the aquifer; however, the data above allows a “worst case” analysis. If, when 6.9 million AF is taken from the groundwater supply, the aquifer declines by an estimated 4.2 million AF (disregarding the assumption that at least some of this decline is a result of declines in surface storage) the yield of the aquifer would be on the order of 2.7 million AF per year.

The proposed 0.37 AF/year use by the Project would be 0.000014% of the sustainable available groundwater in the Tulare Lake Basin and therefore less than significant project specific impacts will result.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is the Tulare Lake Basin. This cumulative analysis is based on information provided in the Water Quality Control Plan for the Tulare Lake Basin.

As noted in the California Water Plan 2009, Regional Report 3, Tulare Lake, it is estimated the future water demand will be reduced by 550,000 acre-feet in future conditions. The proposed construction and operation of a solar center will create a need for a slight increase in the amount of water usage; however, this usage is less than the water usage of a typical agricultural activity. As noted in the 2009 Water Plan, part of the water demand will be reduced with the conversion of agricultural uses to more urban uses. The proposed Project will contribute to the overall reduction of water use by agricultural activities. Therefore, even with a slightly more intensive use than is currently occurring on the proposed Project site, water supply will not be impacted on a cumulative level.

Mitigation Measures:

None Required.

Conclusion: *Less than Significant Impact*

As noted above, less than significant Project-specific and cumulative impacts related to this checklist item will occur.

- c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on- or off-site?**

Project Impact Analysis: *No Impact*

The Project area is located within the proximity of three natural drainages. However, the Project does not require significant grading or contouring of existing slopes, and natural drainage patterns will not be changed or affected. PV Panels will not be located within the 100-year Special Flood Hazard Area (SFHA) and will not affect the flow of the three drainages.

No grading changes or additions to impervious surfacing will be made at the Vestal Substation, therefore there will be no long-term project impacts at that location. Construction impacts will consist of trenching and recompaction, the impact of which will not be significant.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. Alteration of a stream or river will be subject to the regulations of the U.S. Army Corps of Engineers and the California Department of Fish and Wildlife.

The proposed Project will not affect the drainage pattern of any off-site parcels, as there will no grading along the proposed transmission line route, or any other parcels other than where the solar facility will be constructed; therefore, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or off-site?**

Project Impact Analysis: *No Impact*

The Project area is located within the proximity of three natural drainages. However, the Project does not require significant grading or contouring of existing slopes, and natural drainage patterns will not be changed or affected. PV panels will not be located within the 100-year SFHA and will not affect the flow of the three drainages. The proposed Project will not affect the drainage pattern of any off-site parcels. As such, no Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. Any alteration of a stream or river would be subject to the regulations of the U.S. Army Corps of Engineers and the California Department of Fish and Wildlife.

The proposed Project will not affect the drainage pattern of any off-site parcels, and will not affect the drainage pattern of any off-site parcels, therefore, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

- e) **Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Project Impact Analysis:

Less Than Significant Impact

The extent of erosion on a site will typically vary depending upon slope steepness and stability, vegetation, percentage of cover, concentration of runoff, and weather conditions. Portions of the Project site have been leveled by historic farming operations, but other portions of the overall Project area remain in their naturally rolling and sloping state. The Project area receives an average of just under six inches of rain/year⁴². The site will continue to have this combination of rolling and flat topography after Project construction. As such, construction-related activities will minimally disturb the ground surface. Drainage patterns will be minimally changed as a result of the proposed Project. All internal runoff created by the facility operations and precipitation up to a 100-year, 24 hour storm is currently, and will continue to be, contained on site, as discussed, above. A SWPPP will be in place during construction, as also described above. While three natural drainages transect the Project area, the change in runoff quantity and intensity due to the Project will be minimal, and therefore any impacts to off-site parcels, if they can be discerned, will be minimal. As such, only less-than-significant project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis:

Less Than Significant Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the requirements of the Central Valley Regional Water Quality Control Board.

Storm water drains off site in the three natural drainages. However the Project will induce only a minimal (0.04%) increase in site runoff, which will have a de minimum impact on off-site parcels. As such, less-than-significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

Less Than Significant Impact

As noted above, only less-than-significant Project-specific and cumulative impacts related to this checklist item will occur.

⁴² 5.72 inches, based upon the City of Delano, 11 miles to the southwest. Data retrieved from the City of Delano official website, 2/27/13.
<http://www.cityofdelano.org/index.aspx?NID=59>

f) Otherwise substantially degrade water quality?

Project Impact Analysis: *No Impact*

The proposed Project does not include elements that could degrade water quality beyond the discussion in 3.9 a). No project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the requirements of the Central Valley Regional Water Quality Control Board.

As noted above, the proposed Project does not include elements that could degrade water quality beyond what was discussed in 3.9 a). No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Project Impact Analysis: *No Impact*

The proposed Project does not include the construction of any housing units. No project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project does not include any housing units. Therefore, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

h) Place within a 100-year flood hazard area structures which will impede or redirect flood flows?

Project Impact Analysis: *Less Than Significant Impact*

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM) for Community Number 06107C2325E dated June 16, 2009; a portion of the Project site is located in Zone A, as seen in Figure 3.9-3. Zone A areas are in the 100 year flood hazard area with undefined base flood elevations.⁴³

Construction within Zone A requires determination of the actual base flood elevation within the Zone A at the project location, and appropriate measures to elevate construction above that base flood elevation or to flood-proof construction within the Zone A. The construction of housing is not a part of the proposed Project. PV panels or other unprotected electrical facilities will not be built within the Zone A area, or will be built/installed above the determined Base Flood Elevation if facilities are proposed within the Zone A. There will be a less than significant impact with regard to flood-related events.

The Vestal substation area is not within a SFHA.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not have off-site impacts related to flooding. In addition, the proposed Project will not induce additional flooding hazards, on site or off site. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *Less than Significant Impact*

As noted above, Project-specific impacts will be Less Than Significant and there will be no cumulative impacts related to this checklist item.

⁴³ FEMA Flood Zone Designations: <https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%2520Flood%2520Zone%2520Designations>

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Project Impact Analysis: *No Impact*

“Two major dams could cause substantial flooding in Tulare County in the event of a failure: Terminus Dam and Success Dam. In addition, there are many smaller dams throughout the county that will cause localized flooding in the event of their failing.”⁴⁴

The proposed Project area is not within the inundation areas for Terminus Dam or Success Dam. In addition, the proposed Project does not involve significant water storage or changing the alignment of an established watercourse. No project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted above, the proposed Project is not within the inundation area for either major dam in Tulare County. The proposed Project will not have any impacts related to this checklist item either on-site or on other off-site parcels. Therefore, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

j) Inundation by seiche, tsunami, or mudflow?

Project Impact Analysis: *No Impact*

The Project area is not near any major body of water. Therefore, there will be no potential for seiche or tsunami to occur. There will be no impact.

The Project area is relatively flat and is not located near a large body of water, the coast or hillsides. As such, the proposed Project is not subject to inundation by seiche, tsunami, or mudflow. No project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

⁴⁴Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-17

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted above, the proposed Project is not located near a large body of water, the coast or hillsides. The proposed Project will not have any impacts related to this checklist item on other off-site parcels. No Cumulative Impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

REFERENCES

2012 CEQA Guidelines

California Water Plan Update 2009, Tulare Lake

Water Quality Control Plan for the Tulare Lake Basin
Tulare County 2030 General Plan, Background Report

Bookman-Edmonston Engineering Inc. Water Resources Management in the Southern San Joaquin Valley, Table A-1.

EPA summary of the Clean Water Act – <http://www.epa.gov/lawsregs/laws/cwa.html>

EPA summary of the Safe Drinking Water Act –
<http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm>

United States Environmental Protection Agency, About EPA,
<http://www.epa.gov/aboutepa/whatwedo.html>

Army Corps of Engineers
<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx>

FEMA, Flood Insurance Program Summary:
http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp

Porter-Cologne Water Quality Control Act Summary,
http://ceres.ca.gov/wetlands/permitting/Porter_summary.html

State Water Board Website,
http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.shtml

Central Valley Water Quality Control Board, http://www.swrcb.ca.gov/centralvalley/about_us/

California Department of Water Resources website, <http://www.water.ca.gov/about/mission.cfm>

Tulare County Environmental Health Division, <http://www.tularehhsa.org/index.cfm/public-health/environmental-health/>

FEMA Flood Zone Designations:
<https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%2520Flood%2520Zone%2520Designations>

Land Use and Planning

Chapter 3.10

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Land Use and Planning and therefore, no mitigation measures are required. A collection of Tulare County Board of Supervisors adopted Resolutions associated with photovoltaic facilities on agricultural lands is included as Appendix G. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

“Land use in Tulare County is predominately agriculture, and the County is committed to retaining the rich agricultural land. The foothill and mountain regions are controlled predominantly by the State and federal governments. However, as population increases, so does the demand for new housing, retail and commercial space. Agricultural land around the cities is being converted into urban uses. Housing, land, employment and economics are balanced to minimize the amount of agricultural land taken by development. Economic principles tend to take precedence over the conservation of land.”¹

CEQA Requirements for Evaluation of Impacts to Land Use and Planning

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Land Use and Planning. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

ABBREVIATIONS

(CDP)	Census Designated Place
(CESA)	California Endangered Species Act
(DOF)	California Department of Finance
(PSP)	Special Use Permit
(RVLP)	Rural Valley Lands Plan
(TCAG)	Tulare County Association of Governments

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Divide Community

¹ 2011 TCAG Regional Transportation Plan, page 1-11

- Conflict with Applicable land use plan policy, or regulation of an agency with jurisdiction over the project
- Conflict with applicable habitat conservation plan

ENVIRONMENTAL SETTING

“Tulare County has been one of the faster growing counties in the state. Since 1950, its annualized growth rate is 1.8% (2.0% since 1980). Population growth has been primarily in the incorporated cities versus the unincorporated county... As of January 2011, the Department of Finance (DOF) estimates the County population to be 450,840...”²

REGULATORY SETTING

Federal Agencies & Regulations

Federal Endangered Species Act

“Through federal action and by encouraging the establishment of state programs, the 1973 Endangered Species Act provided for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend. The Act:

- authorizes the determination and listing of species as endangered and threatened;
- prohibits unauthorized taking, possession, sale, and transport of endangered species;
- provides authority to acquire land for the conservation of listed species, using land and water conservation funds;
- authorizes establishment of cooperative agreements and grants-in-aid to States that establish and maintain active and adequate programs for endangered and threatened wildlife and plants;
- authorizes the assessment of civil and criminal penalties for violating the Act or regulations;
- authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the Act or any regulation issued there under.”³

State Agencies & Regulations

California’s Department of Fish and Wildlife, formally known as:

California Department of Fish and Game

² 2011 California Department of Finance, <http://www.dof.ca.gov/research/demographic/>

³ Federal Endangered Species Act, <http://www.fws.gov/laws/lawsdigest/esact.html>

“The Department of Fish and Game maintains native fish, wildlife, plant species and natural communities for their intrinsic and ecological value and their benefits to people. This includes habitat protection and maintenance in a sufficient amount and quality to ensure the survival of all species and natural communities. The department is also responsible for the diversified use of fish and wildlife including recreational, commercial, scientific and educational uses.”⁴

California Endangered Species Act

“The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. The Department will work with all interested persons, agencies and organizations to protect and preserve such sensitive resources and their habitats.”⁵

Local Policy & Regulations

Tulare County Association of Governments

“The Tulare County Association of Governments (TCAG) is responsible for overseeing and planning projects with the county and each of its cities, helping to bring tax money back home to fund bus service, road improvements, projects that will improve our air quality, and more.”⁶ TCAG’s 2009 Regional Blueprint includes a goal of a 25% increase in land use densities facilitated with urban growth and expansion of transportation facilities.

Existing County Land Uses

The proposed Project site is located in the southwestern portion of Tulare County. Tulare County is located in the San Joaquin Valley portion of the Great Central Valley of California that lies south of the Sacramento-San Joaquin Delta, and is comprised of 4,863 square miles. The County is bordered by Fresno County to the north, Kings County to the west, Kern County to the south, and Inyo County to the east. The valley portion of land totals approximately 3,930 square miles or approximately 81 percent of Tulare County. Open space, which includes wilderness, national forests, monuments and parks, and county parks, encompass approximately 1,230 square miles, or approximately 25 percent of the County. Agricultural uses total approximately 2,150 square miles or approximately 44 percent of the entire County. Incorporated cities in the Tulare County account for less than three percent of the entire County area.

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

ERM-1.1 Protection of Rare and Endangered Species

⁴ California Department of Fish and Game website, <http://www.dfg.ca.gov/about/>

⁵ California Endangered Species Act, <http://www.dfg.ca.gov/habcon/cesa/>

⁶ Tulare County Council of Governments (TCAG) Website, <http://www.tularecog.org/>

The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or federal government, through compatible land use development.

ERM-1.2 Development in Environmentally Sensitive Areas

The County shall limit or modify proposed development within areas that contain sensitive habitat for special-status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

ERM-1.7 Planting of Native Vegetation

The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

ERM-4.6 Renewable Energy

The County shall support efforts, when appropriately sited, for the development and use of alternative energy resources, including renewable energy such as wind, solar, bio-fuels and co-generation.

IMPACTS ANALYZED

The Project Applicant proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

a) Physically divide an established community?

Project Impact Analysis: *No Impact*

The proposed Project is located in an unincorporated portion of southwestern Tulare County. The Project area is undeveloped near predominantly agricultural land and with no substantial residential developments. The nearest areas with reasonable urbanization are Ducor, a Census Designated Place (CDP), approximately four miles north, Richgrove, a CDP, approximately two miles southwest, and the City of Delano, approximately 16 miles southwest of the Project site. The proposed Project does not include the construction of a major highway, railroad track, or other linear physical feature that would divide an existing community. The proposed Project is consistent with the Tulare County General Plan and Zoning Designation. As such, no project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The Project is located in an agricultural area in southwest Tulare County. The Project site comprises seven parcels, which are all zoned Exclusive Agricultural (AE-40) and are designated Rural Valley Lands under the Tulare County General Plan. The Project site does not have any residential uses on-site with the exception of one property. APN 339-140-01 contains site improvements, including a farm house, a shop, a storage building, and related servicing utilities, the proposed Project will not impact these improved areas. Surrounding uses are primarily rural agricultural uses such as orchards and vineyard, and also include several rural residences along Avenue 24. The existing SCE subtransmission line follows Avenue 24 to the west of the Project site, and this pole-line will be upgraded and appended for electrical and fiber optic lines. The proposed installations will not differ significantly from the existing facilities. However, the proposed Project will not physically divide an established community. There will be no impact.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project specific or cumulative impacts related to this checklist item will occur.

- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

Project Impact Analysis:

Less than Significant Impact

The proposed Project site is located within Tulare County. The Updated Tulare County General Plan, 2030, designates the site for agricultural land uses and is included in the Rural Valley Lands Plan (RVLP). The zoning for the site is Exclusive Agriculture - 40 acre minimum) AE-40, as seen on Figure 3.10-1. The proposed Project is located in fallow agricultural land that lacks irrigation and does not contain any sensitive natural resources⁷.

The proposed Project would be developed on property zoned AE-40, in which photovoltaic facilities are a permitted use subject to approval of a Special Use Permit and Developer Agreement. The life of the Project is proposed to be up to 25 years, with options to extend the life of the use. At the end of the Project life, the applicant will remove all Project facilities from the site, unless otherwise requested by the real property owner. Reclamation activities would include removal of all solar modules, demolition and removal of all buildings, and removal of onsite infrastructure (e.g. roads, pipelines, power poles, and structures). The proposed Project site will be returned to substantially pre-project conditions which will be suitable to again support agriculture type of uses. The modules and ancillary materials would be recycled as appropriate to minimize the proposed Project's environmental impacts. Off-site improvements related to the power and fiber-optic lines will be owned by SCE and are allowed as a utility use.

The proposed Project is consistent with the goals and policies included in the Tulare County General Plan. Additionally, the proposed Project is a permitted use within the Exclusive Agriculture - 40 acre minimum (AE-40) zone district subject to a Special Use Permit approval. In the Tulare County Zoning Code, under Zoning District AE-40, Use Permits Sub-Section E on page 6 of Section 9.7 it specifically states that a Special Use Permit must be secured prior to the establishment... of [any use other than an agricultural use in this zone] pursuant to the procedures referred to in Paragraph B of Part II of Section 16. Furthermore, historically Tulare County Board of Supervisors has adopted several resolution actions which allow photovoltaic land uses in designated agricultural lands. Tulare County Board of Supervisors has adopted the following actions: Resolution No. 89-1275 Uniform Rules for Agricultural Preserves, Resolution No. 99-0620 Establishing Rules on Farmland Security Zones, Resolution No. 2010-0458 Interpretation to the Tulare County Zoning Ordinance No. 352 for Solar and Wind Electrical Generation Facilities County Wide, Resolution No. 2010-0590 Amendment to Resolution Interpretation to Tulare County Zoning Ordinance No. 352, Resolution No. 2010-0591 Compatibility for Public and Private Utility Structures Located on Agricultural Zoned Lands and Lands Under Williamson Act Contracts, and Resolution No. 2010-0717 Establishing Criteria for Public and Private Utility Structures Proposed on

⁷ Appendix C

Agricultural Zoned Lands and Lands Under Williamson Act Contracts⁸. Any impact to this checklist item will be less than significant.

Cumulative Impact Analysis: *Less than Significant*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not conflict with any applicable land use plan. Therefore, less than significant cumulative impacts related to this Checklist item will occur.

Conclusion: *Less than Significant Impact*

The Project will have a less than significant impact to land use and zoning regulations upon adoption of Conditions of Approval and approval of the Special Use Permit PSP 11-062.

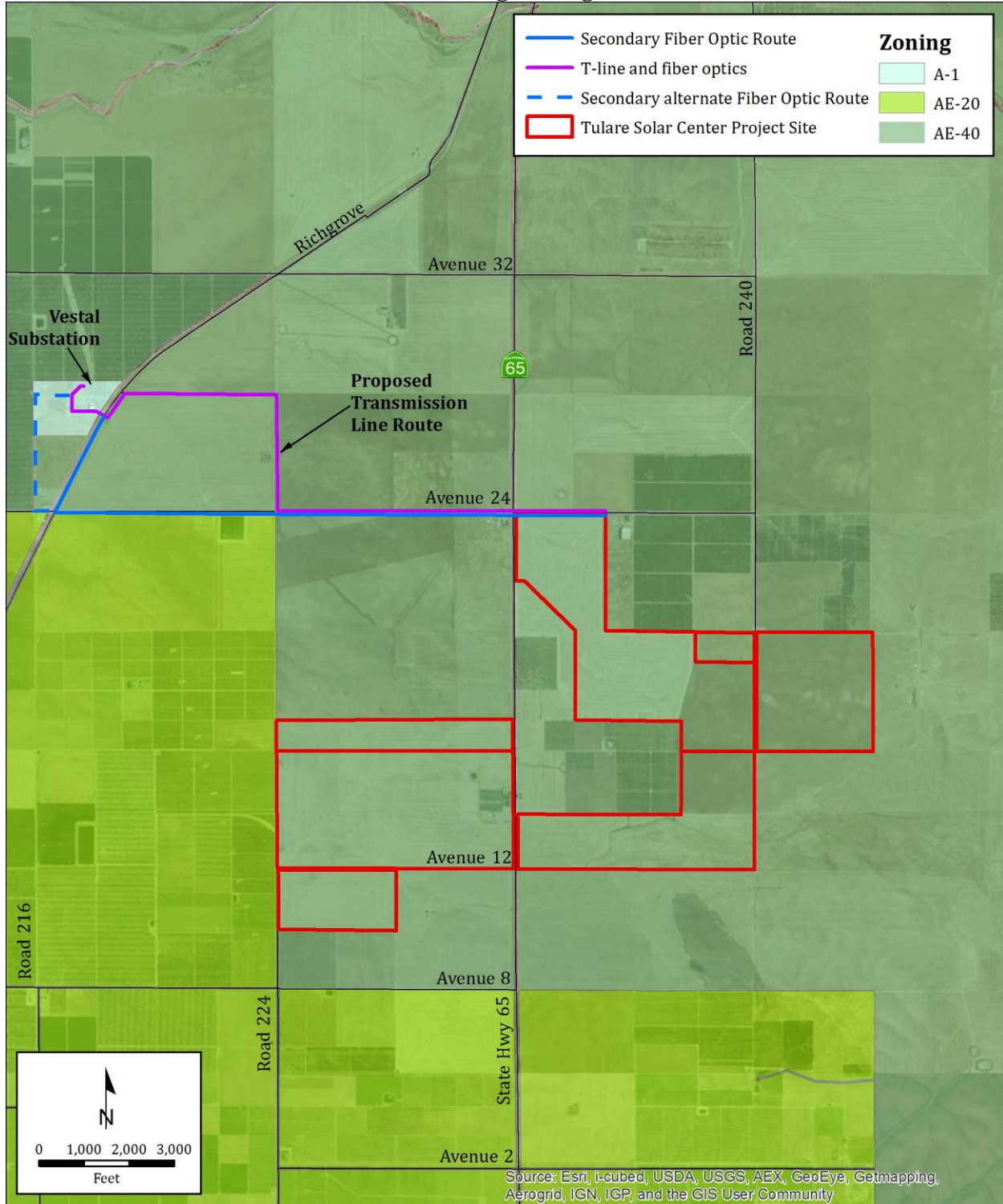
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Project Impact Analysis: *Less than Significant Impact*

The proposed Project site is located in unincorporated Tulare County. While there are two Habitat Conservation Plans in Tulare County, only the Recovery Plan for Upland Species in the San Joaquin Valley could potentially apply to this Project. This plan outlines a number of species that are important to the San Joaquin Valley. As indicated in the Biological Assessment (Appendix C), no special status species were identified on the Project area. As such, no Project-specific impacts related to this Checklist item would occur.

⁸ Appendix G resolutions

**Figure 3.10-1
Existing Zoning**



2/28/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\FINAL\Zoning.v2.mxd

The proposed Project will not conflict with any adopted habitat conservation plans or natural community conservation plans. Therefore, there will be less than significant impact.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not conflict with any Habitat Conservation Plan nor will it conflict with any other development in the geographic area, as further analyzed in Chapter 4. Therefore, less than significant cumulative impacts related to this Checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *Less than Significant Impact*

As noted, no Project specific or cumulative impacts related to this checklist item will occur. Therefore, there will be less than significant impact.

REFERENCES

2011 TCAG Regional Transportation Plan, page 1-11

Tulare County 2030 General Plan

2011 California Department of Finance, <http://www.dof.ca.gov/research/demographic/>

Federal Endangered Species Act, <http://www.fws.gov/laws/lawsdigest/esact.html>

California Department of Fish and Game website, <http://www.dfg.ca.gov/about/>

California Endangered Species Act, <http://www.dfg.ca.gov/habcon/cesa/>

Tulare County Council of Governments (TCAG) Website, <http://www.tularecog.org/>

Mineral Resources

Chapter 3.11

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Mineral Resources, and therefore, no mitigation measures are required. A Custom Soils Resource Report for Tulare Solar Center was generated by Provost and Pritchard Consulting Group, July 2012, utilizing the on-line Web Soil Survey program available at the Natural Resource Conservation Service website¹ and is included in its entirety as Appendix F. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Mineral Resources

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Mineral Resources. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in 15126.2(a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”²The environmental setting

¹ <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

provides a description of the Mineral Resources in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in Plan the Tulare County 2030 General Plan, the Tulare County General Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

ABBREVIATIONS

(MRZ)	Mineral Resource Zone
(OMR)	Office of Mine Reclamation
(SMGB)	State Mining & Geology Board
(SMARA)	Surface Mining and Reclamation Act

CEQA THRESHOLDS OF SIGNIFICANCE

The Tulare County 2030 General Plan identifies known Mineral Resource areas. The threshold of significance for this section will include the following:

- Impact a known Mineral Resource

ENVIRONMENTAL SETTING

“There is estimated to be a total of 932 million tons of aggregate resources in Tulare County. This figure includes 219 million tons of reserves available for mining and 200 million tons that are located in the hard rock quarries southeast of Porterville. Of that total, 19 million tons are located in Northern Tulare County, which is expected to be depleted by the year 2010 unless new resources are permitted for mining. Lemon Cove has been the most highly extracted area for PCC quality aggregate supplies.”³

“Economically, the most important minerals that are extracted in Tulare County are sand, gravel, crushed rock and natural gas. Other minerals that could be mined commercially include tungsten, which has been mined to some extent, and relatively small amounts of chromite, copper, gold, lead, manganese, silver, zinc, barite, feldspar, limestone, and silica. Minerals that are present but do not exist in the quantities desired for commercial mining include antimony, asbestos, graphite, iron, molybdenum, nickel, radioactive minerals, phosphate, construction rock, and sulfur... The majority of these activities appear to occur in the Sierra Foothill Area.”⁴

“The following MRZ categories are used by the State Geologist in classifying the State’s lands. The geologic and economic data and the arguments upon which each unit MRZ assignment is based are presented in the mineral land classification report transmitted by the State Geologist to the SMGB...

³ Tulare County General Plan Update 2030, Background Report, February 2010, page 10-18

⁴ Ibid, page 10-17

- A. *MRZ-1*—Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where well developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is nil or slight.
- B. *MRZ-2a*—Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. As shown on the diagram of the California Mineral Land Classification System, MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits. A typical MRZ-2a area would include an operating mine, or an area where extensive sampling indicates the presence of a significant mineral deposit.
- C. *MRZ-2b*—Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered deposits that are either inferred reserves or deposits that are presently sub-economic as determined by limited sample analysis, exposure, and past mining history. Further exploration work and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a. A typical MRZ-2b area would include sites where there are good geologic reasons to believe that an extension of an operating mine exists or where there is an exposure of mineralization of economic importance.
- D. *MRZ-3a*—Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits. As shown on the diagram of the California Mineral Land Classification System, MRZ-3 is divided on the basis of knowledge of economic characteristics of the resources. An example of a MRZ-3a area would be where there is direct evidence of a surface exposure of a geologic unit, such as a limestone body, known to be or to contain a mineral resource elsewhere but has not been sampled or tested at the current location.
- E. *MRZ-3b*—Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ- 3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-3a category or specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3b is applied to land where geologic evidence leads to the conclusion that it is plausible that economic mineral deposits are present. An example of a MRZ-3b area would be where there is indirect evidence such as a

geophysical or geochemical anomaly along a permissible structure which indicates the possible presence of a mineral deposit or that an ore-forming process was operative.

- F. *MRZ-4*—Areas where geologic information does not rule out either the presence or absence of mineral resources. The distinction between the MRZ-1 and MRZ-4 categories is important for land-use considerations. It must be emphasized that MRZ-4 classification does not imply that there is little likelihood for the presence of mineral resources, but rather there is a lack of knowledge regarding mineral occurrence. Further exploration work could well result in the reclassification of land in MRZ-4 areas to MRZ-3 or MRZ-2 categories.”⁵

REGULATORY SETTING

Federal Agencies & Regulations

No Federal Agencies or Regulations apply to the proposed Project.

State Agencies & Regulations

Surface Mining and Reclamation Act of 1975 (SMARA)

“The Surface Mining and Reclamation Act (SMARA), Chapter 9, Division 2 of the Public Resources Code, requires the State Mining and Geology Board to adopt State policy for the reclamation of mined lands and the conservation of mineral resources. These policies are prepared in accordance with the Administrative Procedures Act, (Government Code) and are found in California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710-2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state’s mineral resources. Public Resources Code Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations.”⁶

State Mining & Geology Board (SMGB)

“The SMGB serves as a regulatory, policy, and appeals body representing the State's interests in geology, geologic and seismologic hazards, conservation of mineral resources and reclamation of lands following surface mining activities. The SMGB operates within the Department of Conservation, and is granted certain autonomous responsibilities and obligations under several statutes including the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping

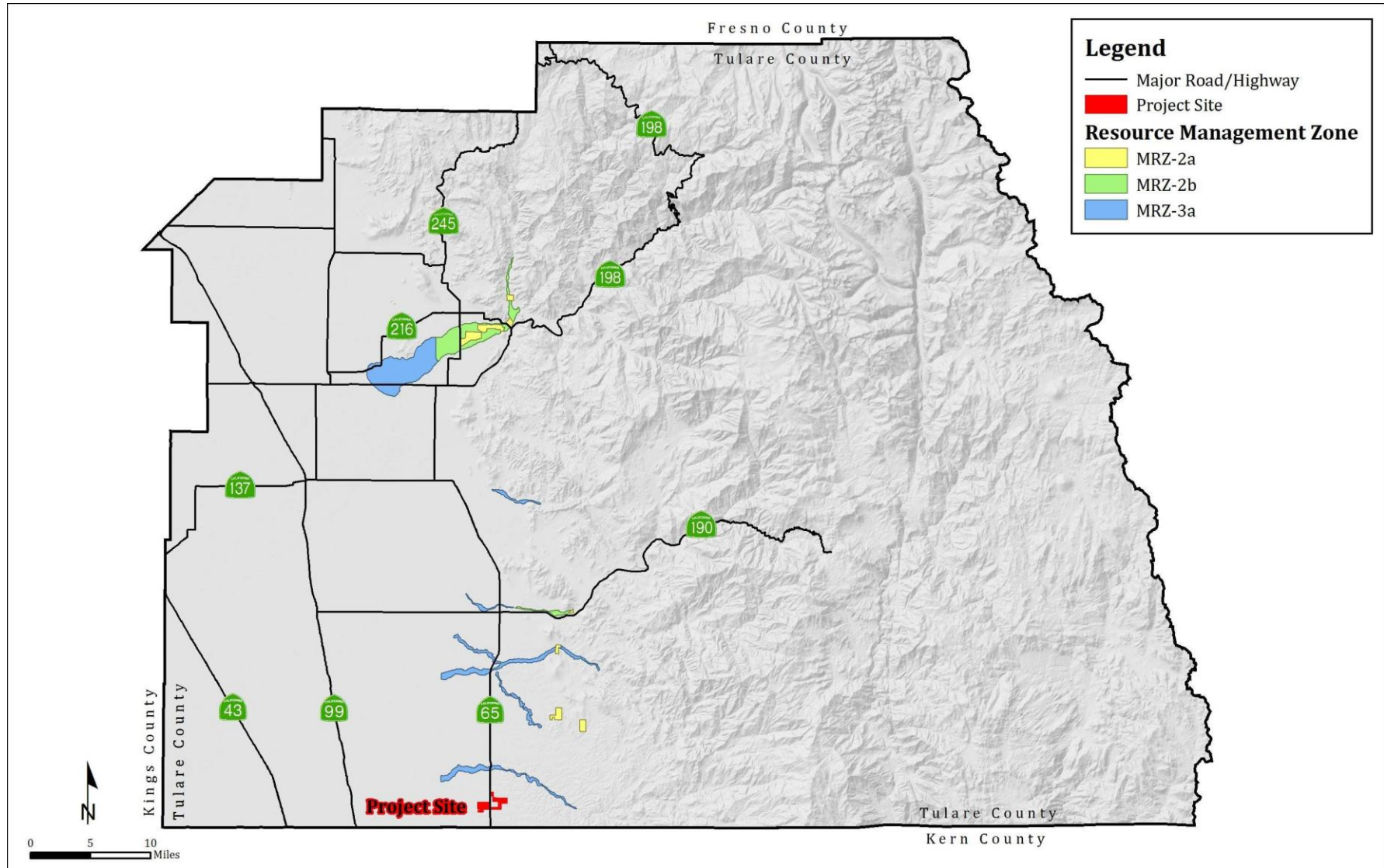
⁵ Guidelines for Classification and Designation of Mineral Land, page 4 to 6.
<http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>

⁶ SMARA Description, <http://www.conservation.ca.gov/smgb/Regulations/Pages/regulations.aspx>

Act, and the Surface Mining and Reclamation Act.”⁷

⁷ State Mining & Geology Board (SMGB), <http://www.conservation.ca.gov/smgb/Pages/Index.aspx>

**Figure 3.11-1
Mineral Resource Zones**



The Office of Mine Reclamation (OMR)

The Office of Mine Reclamation was created in 1991 to administer the SMARA requirements. OMR provides assistance to cities, counties, state agencies and mine operators for reclamation planning and promotes cost-effective reclamation. OMR strives to reclaim mined lands to a beneficial end-use through the implementation of SMARA, prevent or minimize the adverse environmental effects of mining by providing assistance to lead agencies and miners in the review of reclamation plans, and minimize residual hazards to public health and safety through the Abandoned Mine Lands program.”⁸

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

ERM-2.1 Conserve Mineral Deposits

The County will encourage the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate⁸.

ERM-2.2 Recognize Mineral Deposits

The County will recognize as a part of the General Plan those areas of identified and/or potential mineral deposits⁸.

ERM-2.10 Incompatible Development

Proposed incompatible land uses in the County shall not be on lands containing or adjacent to identified mineral deposits, or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted.⁹

ERM-4.6 Renewable Energy

The County shall support efforts, when appropriately sited, for the development and use of alternative energy resources, including renewable energy such as wind, solar, bio-fuels and co-generation⁸.

⁸ Office of Mine Regulation, <http://www.conservation.ca.gov/OMR/Pages/Index.aspx>

⁹ Tulare County General Plan Update 2030, Adopted August 28, 2012

IMPACTS ANALYZED

The Project Applicant proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

Project Impact Analysis: *No Impact*

Mineral Resources located in south Tulare County are predominantly sand and gravel resources near waterways. The proposed Project area is not located in a known mineral resource zone (MRZ), as seen on Figure 3.11-1. The nearest MRZ (classified as "3a"), the White River, it's located approximately 2.4 miles north of the proposed Project site. The MRZ Class 3a, contains known mineral deposits that may qualify as mineral resources; however, further exploration work within these areas could result in the reclassification to a more significant category¹⁰. MRZ Class 3a areas are considered to have a moderate potential for the discovery of economic mineral deposits. Due to the distance separation between the identified MRZ Class 3a area and Project area, there will be no loss of availability of a known mineral resource due to Project implementation. There will be no Project-specific impacts related to this resource.

Cumulative Impact Analysis: *No Impact*

¹⁰ MRZ classification, <http://www.conservation.ca.gov/smgf/Guidelines/Documents/ClassDesig.pdf>

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted above, the proposed Project does not include mining operations and is not located within a known mineral resource zone. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted above, no Project-specific or cumulative impacts related to this resource will occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Project Impact Analysis:

No Impact

As noted in the Response to 3.11 a), the proposed Project does not include a mining operation and the Project site is not located in or near a known mineral resource zone. There will be no significant loss of local important mineral resource recovery site. According to U.S. Geological Survey, the nearest active mine and mineral production plant to the proposed Project is Fountain Springs (operated by International Slurry Seal, Inc.) located approximately 9.4 miles northeast of the proposed Project site¹⁰ within Tulare County. The mine facility is located north of Avenue 56 and east of Old Stage Road, near the Sierra Mountains foothills. International Slurry Seal, Inc. is both a mine and mineral production plant. The facility generally produces crushed stone, sand and gravel materials¹¹. The International Slurry Seal, Inc. mine site is identified by U.S. Geological Survey Record ID, 815. The proposed Project will not create any project specific impacts related to this resource.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted in the Response to 3.11 a), the proposed Project does not include a mining operation and is not located within a mineral resource zone. As such, no cumulative impacts related to this resource will occur.

Mitigation Measures:

¹¹ U.S. Geology Survey, <http://mrdata.usgs.gov/mineplant/show-mineplant.php?id=815>

None Required.

Conclusion:

No Impact

As noted above, no Project-specific or cumulative impacts related to this resource will occur.

REFERENCES

Guidelines for Classification and Designation of Mineral Land, page 4 to 6
<http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>

Custom Soils Resource Report for Tulare Solar Center, Provost and Pritchard Consulting Group,
July 2012

SMARA Description, <http://www.conservation.ca.gov/smgb/Regulations/Pages/regulations.aspx>

State Mining & Geology Board (SMGB), <http://www.conservation.ca.gov/smgb/Pages/Index.aspx>

Office of Mine Regulation, <http://www.conservation.ca.gov/OMR/Pages/Index.aspx>

Tulare County 2030 General Plan Update

MRZ classification, <http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>

U.S. Geology Survey, <http://mrdata.usgs.gov/mineplant/show-mineplant.php?id=815>

Noise

Chapter 3.12

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to noise providing the mitigation measures recommended below are adopted as conditions of approval of the Special Use Permit. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Noise

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts related to noise. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in 15126.2 a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed Project. In assessing the impact of a proposed Project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the Project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the Project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”

The environmental setting provides a description of the Noise Setting in Tulare County. The regulatory setting provides a description of applicable Federal, State, and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional

documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

DEFINITIONS

“Noise is often described as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Researchers have generally agreed that A-weighted sound pressure levels (sound levels) are well correlated with subjective reaction to noise. Variations in sound levels over time are represented by statistical descriptors, and by time-weighted composite noise metrics such as the Day/Night Average Level (Ldn).”¹ In addressing noise impacts, the following key terms are outlined and explained below:

Ambient Noise:

*“The total noise associated with a given environment and usually comprising sounds from many sources, both near and far.”*²

Attenuation:

*“Reduction in the level of sound resulting from absorption by the topography, the atmosphere, distance, barriers, and other factors.”*³

A-weighted decibel (dBA):

*“A unit of measurement for noise based on a frequency weighting system that approximates the frequency response of the human ear.”*⁴

Community Noise Equivalent Level (CNEL):

*“Used to characterize average sound levels over a 24-hour period, with weighting factors included for evening and nighttime sound levels. Leq values (equivalent sound levels measured over a 1-hour period - see below) for the evening period (7:00 p.m. to 10:00 p.m.) are increased by 5 dB, while Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) are increased by 10 dB. For a given set of sound measurements, the CNEL value will usually be about 1 dB higher than the Ldn value (see below). In practice, CNEL and Ldn are often used interchangeably.”*⁵

Decibel (dB):

“A unit of measurement describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound

¹ Tulare County Association of Governments (TCAG), 2011 Regional Transportation Plan: Draft Subsequent EIR, page 150.

² Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-46.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

measured to the reference pressure (which is 20 micronewtons per square meter).’’⁶

Day-Night Average Sound Level (Ldn):

“Average sound exposure over a 24-hour period. Ldn values are calculated from hourly Leq values, with the Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises.’’⁷

Equivalent Sound Level (Leq):

“The level of a steady-state sound that, in a stated time period and at a stated location, has the same sound energy as the time-varying sound (approximately equal to the average sound level). The equivalent sound level measured over a 1-hour period is called the hourly Leq or Leq (h).’’⁸

Lmax and Lmin:

The maximum and minimum sound levels, respectively, recorded during a measurement period. When a sound meter is set to the “slow” response setting, as is typical for most community noise measurements, the Lmax and Lmin values are the maximum and minimum levels recorded typically for 1-second periods.⁹

Percentile-Exceeded Sound Level (Lx).

“The sound level exceeded during a given percentage of a measurement period. Examples include L10, L50, and L90. L10 is the A-weighted sound level that is exceeded 10% of the measurement period, L50 is the level exceeded 50% of the period, and so on. L50 is the median sound level measured during the measurement period. L90, the sound level exceeded 90% of the time, excludes high localized sound levels produced by nearby sources such as single car passages or bird chirps. L90 is often used to represent the background sound level. L50 is also used to provide a less conservative assessment of the background sound level.’’¹⁰

Sensitive Receptors:

“Sensitive receptors are defined to include residential areas, hospitals, convalescent homes and facilities, schools, and other similar land uses.’’¹¹

⁶ Ibid.

⁷ Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-46.

⁸ Ibid.

⁹ Ibid. page 8-47.

¹⁰ Ibid.

¹¹ Ibid.

ABBREVIATIONS

(dBA)	A-Weighted Decibel
(Caltrans)	California Department of Transportation
(CEQA)	California Environmental Quality Act
(CHP)	California Highway Patrol
(CONC)	California Office of Noise Control
(CNEL)	Community Noise Equivalent Level
(DNL)	Day-Night Average Sound Level
(Ldn)	Day-Night Average Sound Level
(dB)	Decibel
(EIR)	Environmental Impact Report
(Leq)	Equivalent Sound Level
(FAA)	Federal Aviation Administration
(FHWA)	Federal Highways Administration
(FHWA TNM®)	Federal Highways Administration Traffic Noise Model, Version 1.0
(FRA)	Federal Railway Administration
(FTA)	Federal Transit Administration
(Lmax)	Maximum Sound Level
(Lmin)	Minimum Sound Level
(PPV)	Peak Particle Velocity
(Lx)	Percentile-Exceeded Sound Level
(VdB)	Vibration Velocity Level in dB

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Exceed Tulare County Standards for Noise Levels
- Expose people of excessive groundborne vibration
- Expose people to excessive airport/airstrip noise

ENVIRONMENTAL SETTING

“Noise in the community has often been cited as being a health problem, not in terms of actual damage such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities such as sleep, speech, recreation, and tasks demanding concentration or coordination. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases, and the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well-being are the bases for land use planning policies preventing exposure to excessive community noise levels.”¹²

¹² Tulare County Association of Governments (TCAG), *2011 Regional Transportation Plan: Draft Subsequent EIR*, page 151.

“Noise sources are commonly grouped into two major categories: transportation and non-transportation noise sources. Transportation noise sources include surface traffic on public roadways, railroad line operations, and aircraft in flight. Non-transportation (or fixed), noise sources, commonly consist of industrial activities, railroad yard activities, small mechanical devices (lawnmowers, leaf blowers, air conditioners, radios, etc.), and other sources not included in the traffic, railroad and aircraft category.”¹³

“Noise level data collected during continuous monitoring included the hourly Leq and Lmax and the statistical distribution of noise levels over each hour of the sample period. The community noise survey results indicate that typical noise levels in noise-sensitive areas of the unincorporated areas of Tulare County are in the range of 29-65 dB Ldn. As would be expected, the quietest areas are those that are removed from major transportation-related noise sources and industrial or stationary noise sources.”¹⁴

“The Safety section of the Tulare County General Plan Background Report and the Tulare County General Plan 2030 Update serve as the primary policy statement by the County for implementing policies to maintain and improve the noise environment in Tulare County. The General Plan presents Goals and Objectives relative to planning for the noise environment within the County. Future noise/land use incompatibilities can be avoided or reduced with implementation of the Tulare County noise criteria and standards. Tulare County realizes that it may not always be possible to avoid constructing noise sensitive developments in existing noisy areas and therefore provides noise reduction strategies to be implemented in situations with potential noise/land use conflicts.”

Table 3.12-1 shows Tulare County’s Maximum Acceptable Ambient Noise Exposure for Various Land Uses.

Table 3.12 - 1
Maximum Normally Acceptable Ambient Noise Exposure for Various Land Uses¹⁵

Land Use	Suggested Maximum Ldn
Residential – Low Density, Single Family, Dupex, Mobile Home	60
Residential – Multi-Family	65
Transient Lodging – Motels, Hotels	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Playgrounds, Neighborhood Park	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings, Business Commercial & Professional	70
Industrial, Manufacturing, Utilities, Ag	75

¹³ Ibid. page 153.

¹⁴ Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-77.

¹⁵ Tulare County General Plan 2030 Update, Goals & Policies Report, page 10-25.

*Draft Environmental Impact Report
Tulare Solar Center*

Notes: Ldn = Day-Night Average Sound Level

Sensitive noise receptors in the proposed Project vicinity can be seen in Figures 2.7 and 2.8.

REGULATORY SETTING

Federal Agencies & Regulations

Federal Highways Administration (FHWA) Highway Traffic Noise Prediction methodology

“In March 1998, the Federal Highway Administration (FHWA) released the Traffic Noise Model, Version 1.0 (FHWA TNM®). It was developed as a means for aiding compliance with policies and procedures under FHWA regulations. Since its release in March 1998, Version 1.0a was released in March 1999, Version 1.0b in August 1999, Version 1.1 in September 2000, Version 2.0 in June 2002, Version 2.1 in March 2003 and the current version, Version 2.5 in April 2004. The FHWA TNM is an entirely new, state-of-the-art computer program used for predicting noise impacts in the vicinity of highways. It uses advances in personal computer hardware and software to improve upon the accuracy and ease of modeling highway noise, including the design of effective, cost-efficient highway noise barriers.”¹⁶

Federal Aviation Administration (FAA)

“Aircraft operated in the U.S. are subject to certain federal requirements regarding noise emissions levels. These requirements are set forth in Title 14 CFR, Part 36. Part 36 establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight, and number of engines. Pursuant to the Federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 “Stage 3” standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft.”¹⁷

Federal Railway Administration (FRA) and the Federal Transit Administration (FTA)

“The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to groundborne vibration levels of 0.5 Peak Particle Velocity (PPV) without experiencing structural damage. The FTA has identified the human annoyance response to vibration levels as 80 VdB.”¹⁸

State Agencies & Regulations

California Noise Insulation Standards

“The California Noise Insulation Standards found in the California Code of Regulations, Title 24, set requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For exterior noise, the noise insulation standard is DNL 45 dB in any habitable room and requires an acoustical analysis

¹⁶ Federal Highway Administration, *Traffic Noise Model*, http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/

¹⁷ Tulare County Association of Governments (TCAG). *2011 Regional Transportation Plan: Draft Subsequent EIR*, 152.

¹⁸ *Ibid.*

demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dB.”¹⁹

California's Airport Noise Standards

“The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations, identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from the California Department of Transportation.”²⁰

California Department of Transportation (Caltrans)

“The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State passby standard is consistent with the federal limit of 80 dB. The State passby standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline.”²¹

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

HS-8.1 Economic Base Protection

The County shall protect its economic base by preventing the encroachment of incompatible land uses on known noise-producing industries, railroads, airports, and other sources.

HS-8.2 Noise Impacted Areas

The County shall designate areas as noise-impacted if exposed to existing or projected noise levels that exceed 60 dB Ldn (or Community Noise Equivalent Level (CNEL)) at the exterior of buildings.

HS-8.3 Noise Sensitive Land Uses

The County shall not approve new noise sensitive uses unless effective mitigation measures are incorporated into the design of such projects to reduce noise levels to 60 dB Ldn (or CNEL) or less within outdoor activity areas and 45 dB Ldn (or CNEL) or less within interior living spaces.

¹⁹ Ibid., page 153.

²⁰ Ibid., page 152.

²¹ Tulare County Association of Governments (TCAG). 2011 *Regional Transportation Plan: Draft Subsequent EIR*, 152.

HS-8.4 Airport Noise Contours

The County shall ensure new noise sensitive land uses are located outside the 60 CNEL contours of all public use airports.

HS-8.6 Noise Level Criteria

The County shall ensure noise level criteria applied to land uses other than residential or other noise-sensitive uses are consistent with the recommendations of the California Office of Noise Control (CONC).

HS-8.8 Adjacent Uses

The County shall not permit development of new industrial, commercial, or other noise-generating land uses if resulting noise levels will exceed 60 dB Ldn (or CNEL) at the boundary of areas designated and zoned for residential or other noise-sensitive uses, unless it is determined to be necessary to promote the public health, safety and welfare of the County.

HS-8.10 Automobile Noise Enforcement

The County shall encourage the CHP, Sheriff's office, and local police departments to actively enforce existing sections of the California Vehicle Code relating to adequate vehicle mufflers, modified exhaust systems, and other amplified noise.

HS-8.11 Peak Noise Generators

The County shall limit noise generating activities, such as construction, to hours of normal business operation (7 a.m. to 7 p.m.). No peak noise generating activities shall be allowed to occur outside of normal business hours without County approval.

HS-8.13 Noise Analysis

The County shall require a detailed noise impact analysis in areas where current or future exterior noise levels from transportation or stationary sources have the potential to exceed the adopted noise policies of the Health and Safety Element, where there is development of new noise sensitive land uses or the development of potential noise generating land uses near existing sensitive land uses. The noise analysis shall be the responsibility of the project applicant and be prepared by a qualified acoustical engineer (i.e., a Registered Professional Engineer in the State of California, etc.). The analysis shall include recommendations and evidence to establish mitigation that will reduce noise exposure to acceptable levels (such as those referenced in Table 10-1 of the Health and Safety Element).

HS-8.14 Sound Attenuation Features

The County shall require sound attenuation features such as walls, berming, heavy landscaping, between commercial, industrial, and residential uses to reduce noise and vibration impacts.

HS-8.15 Noise Buffering

The County shall require noise buffering or insulation in new development along major streets, highways, and railroad tracks.

HS-8.16 State Noise Insulation

The County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code.

HS-8.18 Construction Noise

The County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 am to 7pm, Monday through Saturday when construction activities are located near sensitive receptors. No construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors.

HS-8.19 Construction Noise Control

The County shall ensure that construction contractors implement best practices guidelines (i.e., berms, screens, etc.) as appropriate and feasible to reduce construction-related noise-impacts on surrounding land uses.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Project Impact Analysis:

Less than Significant with Mitigation

Full Project build-out will likely occur over several years; however, for analysis purposes, it was assumed that the Project could be built in one year. It is anticipated that Project construction will be developed in several phases via incremental developed in sections of 10 or 20 MW at a time. On a most stringent timeline, the proposed Project can be completed in one single 80 MW phase within a one year timeline. Project construction will include not only the construction of all on-site facilities but also the installation of all fiber optic lines, utility power poles, and transmission lines. The proposed Project is planned to be completed on a schedule necessary to deliver electricity pursuant to the requirements of Power Purchase Agreements (PPAs) entered into with the contracting utility or utilities. Project construction would involve multiple, temporary, short-term noise sources.

Construction activities will typically occur between eight to ten hours per day, for five to six days per week. The proposed Project will generate the majority of the construction noise due to vehicular and construction activities. The proposed Project will generate temporary traffic increases related to short-term construction activities. Approximately 198 workers are

expected to be on site daily during the peak of the construction operations. It is anticipated that workers will carpool to the site in both company and non-company vehicles; therefore, an occupancy rate of 1.5 persons per vehicle was used. The workers will commute to and from the proposed Project site, resulting in approximately 330 daily personnel vehicle trips (combined inbound, outbound and associated mid-day trips). For purposes of this study, a conservative estimate was made that all worker trips will arrive and depart within the peak hour, which equates to 132 peak hour trips in both the AM and PM time frame. This rate includes three additional medium duty truck trips defined in the project description.

An estimate of 90 heavy trucks, both material and equipment, will enter and depart the Project site per day during the peak of construction/delivery operations. This will result in a total of 180 truck trips per day which equates to 306 passenger-car equivalent trips per day. Approximately 31 peak hour truck trips in both the A.M. and P.M. time frame are estimate during construction, as noted by Highway Capacity Manual Guidelines.

A maximum construction timeframe was analyzed assuming 260 days over the course of 12 months to complete 80MW facility, and assumed five days per week over the course of 52 consecutive weeks, between eight to ten hours per day. Typical construction-related equipment will include graders, trenchers, small tractors, a crane and miscellaneous equipment. During Project construction, noise from construction-related activities will contribute to the ambient noise environment in the immediate Project vicinity. For the construction-related activities involved in both scenarios (that is, 10 to 20MW incremental development or full build-out in a one year timeline), the construction equipment utilized during construction-related phases are estimated to generate standard noise levels and intensities as shown in Table 3.12-2. Construction-related activities are anticipated to generate maximum noise levels, (as indicated in Table 3.12-2) ranging from 79 to 91 dBA at a distance of 50 feet from the point of origin (source), without feasible noise control (e.g., mufflers). However, with feasible noise control the noise levels would range from 75 to 80 dBA at a distance of 50 feet from its point of origin. Construction-related noise will decrease with distance from the Project site and because of the site's topography. Construction-related activities will either occur below street-view level along State Route 65, or will be at a slightly higher grade level. The Project will have a 50foot setback from the property line to the solar panels. As a result, construction activities and installation of photovoltaic panels will be located at least 50 feet from sensitive receptors. Noise impacts related to the off-site components will be construction related only, i.e., no incremental noise from the power and fiber-optic lines as a result of the Project's operation, and construction related noise for the off-site components will be both temporary and short in duration.

**Table 3.12-2
Typical Construction Noise Levels²²**

Type of Equipment	dBA at 50 ft	
	Without Feasible Noise Control	With Feasible Noise Control ¹
Dozer or Tractor	80	75

²² U.S. Department of Transportation, Federal Transit Administration, *Transit Noise & Vibration Impact Assessment*, May 2006, 2-16 to 12-10.

*Draft Environmental Impact Report
Tulare Solar Center*

Excavator	88	80
Scraper	88	80
Front End Loader	79	75
Backhoe	85	75
Grader	85	75
Truck	91	75

¹ Feasible noise control includes the use of intake mufflers, exhaust mufflers and engine shrouds operating in accordance with manufacturers specifications.

The Project, a solar photovoltaic generating facility, will contain minimal noise sources (such as transformers) during Project operation. The transformers will remain energized during all hours of the day.

The Tulare County General Plan does not identify short-term, construction-noise-level thresholds. The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be anticipated from time to time in urban and agricultural environments. Operational noise is expected to be below Tulare County General Plan noise standards of 60 dBA at the exterior of nearby residences. Construction activities would be restricted to daytime hours and would be short-term in nature. The following mitigation measure would reduce potential construction-related noise impacts to less than significant levels.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

Proposed Project construction will involve temporary, short-term noise sources that can be mitigated to a less than significant level. Any noise impacts will not exceed established noise level criteria identified in the Tulare County General Plan during operation and maintenance of the proposed Project. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

3.12-1. – All construction equipment shall be equipped with noise-reducing mufflers or other sound absorbing material (retro-fitted to gas and diesel-powered equipment).

Conclusion: *Less than Significant Impact*

As noted earlier, any Project specific or cumulative impacts related to this checklist item will

be less than significant with the implementation of Mitigation Measure 3.12-1.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Project Impact Analysis:

Less than Significant Impact

Typical outdoor sources of perceptible ground borne vibration consist of construction-related equipment, steel-wheeled trains, and traffic on rough roads. Construction-related vibrations can be transient, random, or continuous. The proposed Project will consist of construction-related activities and operation of a solar generation facility. None of these elements will create significant vibration during operations. Although some vibration may occur during construction-related activities, any construction-related vibration will be temporary, short-term, and will not be perceptible by receptors beyond the Project site. Vibration impacts related to the off-site components will be construction related only, i.e., no vibrations will emanate from the power and fiber-optic lines as a result of the Project's operation, and construction related vibrations for the off-site components will be both temporary and short in duration. Less than significant impacts Project specific impacts will occur.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

Operations of the proposed Project will not result in any long-term vibration impacts. As such, cumulative impacts related to this checklist item will not occur.

Mitigation Measures:

None Required.

Conclusion:

Less than Significant Impact

As noted above, less than significant Project-specific impacts related to this checklist item will occur and no cumulative impacts related to this checklist item will occur.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Project Impact Analysis:

Less than Significant Impact

The proposed Project site consists of dryland farmland that is zoned for agricultural use, south of the unincorporated community of Ducor. The site is predominately surrounded by previously disturbed agriculture land. There are approximately four, scattered rural residences near the proposed Project site that will be located approximately 1,000 feet from the solar generation facility. The nearest school (Richgrove Elementary School) is approximately two miles southwest of the proposed site. The ambient noise environment in

the vicinity of the proposed Project site is dominated by agricultural-related uses. The off-site Project components are upgraded power lines and new fiber optic lines, primarily placed on existing power poles. No noise increases are anticipated from these facilities as a result of the Project.

As noted earlier in the response to 3.12 a), the proposed Project will increase ambient noise levels, primarily during construction-related activities; however, the increase in noise levels will not exceed Tulare County's Maximum Acceptable Ambient Noise Exposure for Various Land Uses. Therefore, less than significant Project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: **Less than Significant Impact**

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier in the response to 3.12 a), the proposed Project will increase ambient noise levels, primarily during construction-related activities; however, the increase in noise levels will be temporary and short-term in nature and will not exceed Tulare County's Maximum Acceptable Ambient Noise Exposure for Various Land Uses. Therefore, less than significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: **Less than Significant Impact**

As noted above, less than significant Project-specific and cumulative impacts will occur.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Project Impact Analysis: **Less than Significant Impact**

Temporary and short-term construction-related noise will occur as the Project components are built. Any impacts regarding the temporary increase in ambient noise levels have been discussed in the impact analysis of Impact 3.12 a). Implementation of Mitigation Measure 3.12-1 will reduce the temporary, short-term ambient noise impacts to a level that is less than significant.

In terms of periodic operational noise, solar generation facility operations will require equipment use. Proposed Project maintenance will generally be conducted during weekday daytime hours. To the extent possible, equipment repairs will be conducted in the early morning or evening hours, when the proposed Project's potential for energy production is at a minimum. This equipment use was evaluated in the noise analysis and it was determined

that noise levels will not exceed Tulare County Noise level Standards. As such, less than significant Project-specific impacts will occur.

Cumulative Impact Analysis: **Less than Significant Impact**

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

Temporary, short-term construction-related noise will not have a cumulative impact. However, there is the potential for significant, temporary noise levels increases if multiple sources beyond the Project site occur at the same instance as the Project's construction-related noise. There are no projects that will significantly increase temporary noise levels in the vicinity of the proposed Project site.

Periodic operational noise levels will increase; however, this increase will not exceed the established County of Tulare thresholds. In addition, cumulative periodic noise levels will not exceed thresholds. Therefore, a less than significant impact related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: **Less than Significant Impact**

As noted earlier, less than significant Project-specific and cumulative impacts related to this checklist item will occur.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

Project Impact Analysis: **No Impact**

The San Joaquin Sprayers Heliport is located approximately 6.8 miles west, and the Delano Municipal Airport in Kern County is located approximately ten miles southwest, of the proposed Project area. The proposed Project is located far enough away from these airports that exposure to airport noise is not an issue. No Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: **No Impact**

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, the proposed Project site is not located within two miles of an airport. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, the proposed Project will not result in either Project-specific or cumulative impacts related to this checklist item.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Project Impact Analysis:

No Impact

The proposed Project site is not near any known operating private airstrips. Potential exposure to private airstrip noise is not an issue as there are no private airstrips near the Project site. No Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, the Project is not located near a private airstrip. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, the proposed Project will not result in either Project-specific or cumulative impacts related to this checklist item.

REFERENCES

Tulare County General Plan 2030 Update, Background Report, February 2010, page 8-46.

Tulare County Association of Governments (TCAG), *2011 Regional Transportation Plan: Draft Subsequent EIR*, page 151.

Federal Highway Administration, *Traffic Noise Model*,
http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/

U.S. Department of Transportation, Federal Transit Administration, *Transit Noise & Vibration Impact Assessment*, May 2006, 2-16 to 12-10.

Population and Housing

Chapter 3.13

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Population and Housing, and therefore, no mitigation measures are required. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Population and Housing

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Population and Housing. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

ABBREVIATIONS

(HCD)	California Department of Housing and Community Development
(HATC)	Housing Authority of the County of Tulare
(HUD)	US Department of Housing and Urban Development
(O&M)	operations and maintenance
(RHNA)	Regional Housing Needs Assessment
(TCAG)	Tulare County Association of Governments

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Induce Substantial Population Growth
- Displace Housing
- Displace People

ENVIRONMENTAL SETTING

“Tulare County, California is one of the largest counties in the San Joaquin Valley. Geographically it is situated about midway between San Francisco and Los Angeles, the two

principal cities of the Pacific Slope... Within the confines of Tulare County are now 4,863 square miles, or 3,158,400 acres.”¹

The Tulare County Region has three (3) sub-regional Housing Market Areas. These three areas are described below:

Visalia/Farmersville/Exeter/Sequoia Park/Dinuba/Cutler/Orosi Market Area:

“Located in northern Tulare County and encompassing Census Tracts 1 through 20. Several cities are located within this market area including Dinuba, Exeter, Farmersville, Visalia (the County’s largest City), and Woodlake. Visalia is the only city within the entire County with two regional shopping centers. A number of unincorporated communities are located within this market area including: Cutler, East Orosi, Orosi, Sultana, Traver, Goshen, West Goshen, Ivanhoe, Lemon Cove, Three Rivers, and other Valley and Sierra Communities. It should be noted that Woodlake and Farmersville are highly defined sub-market areas within this Market Area. These communities have high farmworker households, low median income, and high unemployment rates within Tulare County. The geographic boundary of this market area extends to the Tulare County line in the north, west and east, and generally extends to Avenue 256 in the south.”²

Tulare/Southwest Tulare County Market Area:

“Located in central Tulare County, this Market Area encompasses Census Tracts 21 through 24, 29 through 32, and 42 through 44. The only incorporated city in this Market Area is Tulare, the second largest city in the County. A number of unincorporated cities are also located in this Market Area and include: Tipton, Pixley, Earlimart, and other Valley Communities. Most economic interaction with communities in this market area primarily occurs between the City of Delano located just south of the Tulare/Kern County Line and the City of Visalia to the north. The geographic boundary of this market area extends generally along Avenue 256, the County line to the west and to the south, and along Rd. 192/Rd. 176/Rd. 208/SR 65 to the east.”³

Lindsay/Strathmore/Porterville/Foothills/Southeast Tulare County Market Area:

“Located in southeast Tulare County, this Market Area encompasses Census Tracts 25 through 28, 33 through 41, and 45. Most economic interaction in this Market Area occurs between the unincorporated communities and the Cities of Lindsay and Porterville. The unincorporated communities in this Market Area include: Strathmore, Cairns Corner, Ducor, Terra Bella, the Tule Indian Reservation, and other Valley and Sierra Communities. The geographic boundary of this market area extends along Avenue 256 to the north, Rd. 192/Rd. 176/Rd. 208/SR 65 to the west, and the County line to the south and east.”⁴

¹ Tulare County Regional Blueprint, page 4 to 5

² Final Tulare County 2008 Regional Housing Needs Assessment Plan, page II-2

³ Ibid., page II-2

⁴ Ibid., page II-4

Tulare County's population trends can be seen in Table 3.13-1. According to the Tulare County Regional Housing Needs Plan, the number of households in Tulare County was estimated as 110,356 in 2000. In 2007, the number of households was estimated as 125,836. As of 2010 the number of households was estimated at 140,519 units while the 2014 household Projection is projected to be 159,514⁵.

**Table 3.13-1
Population of Tulare County⁶**

	1980	1990	2000	2008	2010⁷
Tulare County's Population	245,738	311,921	368,021	435,254	442,179

“Affordability problems occur when housing costs become so high in relation to income that households have to pay an excessive proportion of their income for housing, or are unable to afford any housing and are homeless. A household is considered to be overpaying (or cost burdened) if it spends more than 30 percent of its gross income on housing. Severe overpayment occurs when a household spends more than 50 percent of income on housing. Housing costs depend upon many variables, including the type, size, value and/or location of the housing units, the intended tenure of the unit (whether it is to be occupied by owners or renters), and the inclusion or exclusion of one or more utilities, services, property taxes, insurance, and maintenance.”⁸

Housing costs continue to rise significantly. Since 2000, the median rent has increased 51.3percent from \$516 to \$781. The monthly owner costs for housing units with a mortgage have seen an even larger escalation going from \$943 to \$1,487 which is a 57.7 percent increase. The monthly owner costs for those housing units without a mortgage increased by 43 percent, going from \$251 to \$359.^[9,10]

As noted in the Tulare County 2008 Regional Housing Needs Assessment Plan, “[t]he RHNA Plan recommends that the County provide land use and zoning for approximately 938 units per year in the unincorporated portions of the County. This augmented number was due to the high allocation of housing given to the incorporated cites mainly as a result of the amount of annexations carried out by incorporated cites. The County administratively agreed to increase its housing share to 7,035 units (938 units per year over the 7 1/2 year RHNA planning period) to alleviate member jurisdictions concerns over high housing numbers within the incorporated cities.”¹¹

“The County has made significant progress in meeting the quantifiable goals and Projected needs from the 2003 Housing Element... The 7.5-year time frame included a construction boom. The 2002 Regional Housing Needs Plan indicated a housing need of 2,250 units within the

⁵ 2010 U.S. Census, United States, <http://www.census.gov/2010census/popmap/ipmtext.php?fl=06>

⁶ 1980, 1990, 2000 U.S. Census, State of California, Department of Finance, E-1 Population Estimates.

⁷ 2010 U.S. Census, United States, <http://www.census.gov/2010census/popmap/ipmtext.php?fl=06>

⁸ Tulare County 2009 Housing Element Update, Adopted May 8, 2012, page 36

⁹ Ibid., page 41

¹⁰ 2007-2011 American Community Survey 5-year Estimates, http://factfinder2.census.gov/rest/dnldController/deliver?_ts=380558361248

¹¹ Tulare County 2009 Housing Element Update, Adopted May 8, 2012, page 10

unincorporated area; overall growth was much greater than the Projected need.”¹²

REGULATORY SETTING

Federal Agencies & Regulations

US Department of Housing and Urban Development (HUD)

“HUD’s mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes; utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business.”¹³

State Agencies & Regulations

California Department of Housing and Community Development (HCD)

HCD’s mission is to “[p]rovide leadership, policies and programs to preserve and expand safe and affordable housing opportunities and promote strong communities for all Californians.”¹⁴ “In 1977, the California Department of Housing and Community Development (HCD) adopted regulations under the California Administrative Code, known as the Housing Element Guidelines, which are to be followed by local governments in the preparation of local housing elements. AB 2853, enacted in 1980, further codified housing element requirements. Since that time, new amendments to State Housing Law have been enacted. Each of these amendments has been considered during development of this Housing Element.”¹⁵

California Relocation Assistance Act

The State of California adopted the California Relocation Assistance Act (*California Government Code* §7260 et seq.) in 1970. This State law, which follows the federal Uniform Relocation Assistance and Real Property Acquisition Act, requires public agencies to provide procedural protections and benefits when they displace businesses, homeowners, and tenants in the process of implementing public programs and Projects. This State law calls for fair, uniform, and equitable treatment of all affected persons through the provision of relocation benefits and assistance to minimize the hardship of displacement on the affected persons.

Local Policy & Regulations

Tulare County 2008 Regional Housing Needs Assessment Plan

“The Tulare County Association of Governments (TCAG) was responsible for allocating the State’s Projections to each local jurisdiction within Tulare County including the County unincorporated area, which is reflected in this Housing Element. Tulare County has no control

¹² Ibid., page 101.

¹³ HUD Website, <http://portal.hud.gov/hudportal/HUD?src=/about/mission>

¹⁴ HCD website, <http://www.hcd.ca.gov/mission.html>

¹⁵ Tulare County 2009 Housing Element Update, Adopted May 8, 2012, page 3 to 4

over the countywide population and housing Projections provided to TCAG when it prepared the Regional Housing Needs Assessment Plan.”¹⁶

Tulare County Regional Blueprint 2009

This Blueprint includes the following preferred growth scenario principals:

- Increase densities county-wide by 25% over the status quo densities;
- Establish light rail between cities;
- Extend Highway 65 north to Fresno County;
- Expand transit throughout the county;
- Maintain urban separators around cities; and
- Growth will be directed toward incorporated cities and communities where urban development exists and where comprehensive services and infrastructure are or will be provided.

Tulare County Housing Authority

“The Housing Authority of the County of Tulare (HATC) has been officially designated as the local public housing agency for the County of Tulare by the Board of Supervisors and was created pursuant to federal and state laws. ...HATC is a unique hybrid: a public sector agency with private sector business practices. Their major source of income is the rents from residents. The HATC mission is “to provide affordable, well-maintained rental housing to qualified low- and very low-income families. Priority shall be given to working families, seniors and the disabled. Tenant self sufficiency and responsibility shall be encouraged. Programs shall be self-supporting to the maximum extent feasible.” HATC provides rental assistance to very low and moderate-income families, seniors and the handicapped throughout the county. HATC offers many different programs, including the conventional public housing program, the housing choice voucher program (Section 8), the farm labor program for families with farm labor income, senior housing programs, and other programs. They also own or manage some individual subsidized rental complexes that do not fall under the previous categories, and can provide information about other affordable housing that is available in Tulare County. All programs are handicap accessible. Almost all of the complexes have 55-year recorded affordability covenants.”¹⁷

2009-2014 Housing Element Policies

Policy 1.11

Encourage the development of a broad range of housing types to provide an opportunity of choice in the local housing market.

Policy 1.14

Pursue an equitable distribution of future regional housing needs allocations, thereby providing a greater likelihood of assuring a balance between housing development and the location of

¹⁶ Ibid., page 10

¹⁷ Ibid., page 112

employment opportunities.

Policy 1.33

Encourage and support a balance between housing and agricultural needs.

Policy 3.11

Support and coordinate with local economic development programs to encourage a “jobs to housing balance” throughout the unincorporated area.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE’s electrical system.

IMPACT EVALUATION

Will the Project:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Project Impact Analysis:

No Impact

The proposed Project comprises seven undeveloped parcels, APNs 339-100-07, 339-110-06, 339-110-10, 339-110-16, 339-140-01, 339-140-08, and 339-140-10, which are all zoned Exclusive Agricultural (AE-40) and are designated Rural Valley Lands under the Tulare County General Plan. Although APN 339-140-01 contains site improvements, including a

farm house, a shop, a storage building, and related servicing utilities, the proposed Project will not impact the improved areas as the proposed facility will be constructed around the existing improvements. The proposed Project will not induce substantial growth because it does not include new homes or businesses, as defined as a new “growing concern” in the County of Tulare, nor does it propose road extensions or any additional infrastructure that would generate an adverse effect to population growth. No Impact to Project specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

As described earlier, the proposed Project does not include development of homes or businesses nor does it propose road extensions or additional infrastructure that would generate adverse population growth as a result of the proposed Project. No Project-specific or cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted above, no Project-specific or cumulative impacts related to this checklist item will occur.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Project Impact Analysis: *No Impact*

The proposed Project is generally located on dry-farmlands with the exception of APN 339-140-01. As noted previously, APN 339-140-01 contains site improvements (including a farm house, a shop, a storage building, and related servicing utilities) which will not be impacted by the proposed Project. The proposed Project will be developed around existing site improvements with no anticipated plans to replace or remove any existing structures. There are no housing units located on the remaining portions of the proposed Project area and no housing units will be displaced as a result of the proposed Project. Therefore, no Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, there is one parcel that contains site improvements; however, the proposed Project will not impact the existing improved areas. The remaining parcels have no existing housing units that will be affected as a result of the proposed Project. The proposed Project will not displace any housing units. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Project Impact Analysis: *No Impact*

The proposed Project does not include the conversion of housing, nor will it contribute to the displacement of people. The proposed Project will not necessitate the construction of replacement housing elsewhere. As such, no Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not convert housing on-site or off-site. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

REFERENCES

- Final Tulare County 2008 Regional Housing Needs Assessment Plan, page II-2
2010 U.S. Census, United States, <http://www.census.gov/2010census/popmap/ipmtext.php?fl=06>
- 1980, 1990, 2000 U.S. Census, State of California, Department of Finance, E-1 Population Estimates.
- 2010 U.S. Census, United States, <http://www.census.gov/2010census/popmap/ipmtext.php?fl=06>
- California Department of Finance, E-1 Population Estimates for Cities, Counties, and State-
http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/documents/E-1_2013_Press_Release.pdf
- Tulare County 2009 Housing Element Update, Adopted May 8, 2012, page 36
2007-2011 American Community Survey 5-year Estimates,
http://factfinder2.census.gov/rest/dnldController/deliver?_ts=380558361248
- HUD Website, <http://portal.hud.gov/hudportal/HUD?src=/about/mission>
- HCD website, <http://www.hcd.ca.gov/mission.html>

Public Services

Chapter 3.14

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Public Services providing the mitigation measures recommended below are adopted as conditions of approval to the Special Use Permit. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Public Services

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Public Services. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

The environmental setting provides a description of the Public Services in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

ABBREVIATIONS

_(CalFire/TCFD)	California Department of Forestry and Fire Protection/Tulare County Fire Department
(NFPA)	National Fire Protection Association

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance.

- Will the Project impact Fire Services?
- Will the Project impact Police Services?
- Will the Project impact Schools?
- Will the Project impact Parks?
- Will the Project impact Other Public Facilities?

ENVIRONMENTAL SETTING

Fire Protection

“The [former] California Department of Forestry and Fire Protection/Tulare County Fire Department (now CalFire/TCFD) serves 145,128 of Tulare County’s population. As Table 7-6 of the General Plan Background document shows, dispatchers reported 14,022 responses in 2002, averaging 38.4 calls a day. Fire occurrence data generated by the Department indicate a direct relationship between high use areas of the county and fire occurrence. The population increase in the mountain areas have caused increased wildland urban interface problems as well. Structures are being built throughout wildland areas wherein vegetation fires can spread rapidly. Providing adequate fire protection to those structures has become a major undertaking.”¹

“..[T]he Tulare County Fire Department responded to 14,022 calls for service in 2002... [A] majority of the calls were for medical emergencies (52 percent) followed by fire calls (20 percent). The remaining calls ranged from dispatch incidents (8.1 percent) to assisting other agencies (7.3 percent) to public assistance (3.4 percent).”² Tulare County Fire Department maintains mutual aid agreements with neighboring fire agencies.

Tulare County Fire Station #10, located at 20890 Grove Drive in Richgrove, is the closest fire station to the Project, located approximately 5 miles from the project site center.³

Two Kern County fire stations are the next closest facilities to the Project, which is located at the southern edge of Tulare County near the boundary with Kern County. One Kern County fire station is located at 1001 12th Avenue in Delano and is approximately 12 miles from the Project’s approximate center-point. The other is located at 132 W. 11th Avenue, also in Delano, and is approximately 13 miles from the Project’s approximate center-point.

The department uses an “attack” time protocol of less than 10 minutes to respond to 90 percent of the calls on the valley floor and less than 15 minutes on 75 percent of calls in the foothill and mountain areas. The Project site is in the 15 minute response area. Such response times are feasible from each of the stations mentioned.

Police Protection

“In 2007, the Tulare County Sheriff’s Department had 448 sworn officers serving its unincorporated population (145,128), and generates a level of service ratio of 3.2 officers per 1,000 residents. The ratio is above the accepted standard of 2.0 officers per 1,000 residents set by the Federal Bureau of Investigation. The Sheriff’s Department also has 186 non-sworn clerical and support staff amounting to total Sheriff’s Department staff personnel of 633 employees.”⁴

“Law enforcement protection for the unincorporated county is divided into 22 areas with four stations... [T]he Porterville substation serves the largest number of areas with 10 patrols,

¹ Tulare County General Plan Update 2030, Background Report, February 2010, page 7-73

² Ibid., page 7-74

³ Tulare County Fire Department Web Site: <http://www.tularecounty.ca.gov/fire/>

⁴ Tulare County General Plan Update 2030, Background Report, February 2010, pages 7-71 and 7-72

followed by the headquarters in Visalia with six, and Cutler-Orosi and Pixley, each with three areas.”⁵

The substation closest to the proposed Project is the Pixley station, located at 161 N. Pine Street in Pixley, approximately 17 miles northwest of the Project site.⁶

Schools

A total of 48 school districts provide education throughout Tulare County... Of the 48 school districts, seven are unified districts providing educational services for kindergarten through 12th grade. The remaining 41 districts consist of 36 elementary school districts and four high school districts. Many districts only have one school.”⁷

“Total enrollment in Tulare County public schools has increased from about 80,000 to 88,300 students during a nine-year span from 1993 to 2002. On average, the growth rate has remained steady with annual increases approximating two percent.”⁸

The closest elementary school to the proposed Project site is Richgrove Elementary, located approximately two miles southwest of the Project.

Parks

There are a number of Federal, State, and local parks within Tulare County, including 13 park and recreational facilities operated by the County of Tulare. A list of these local park facilities is provided in Table 3.14-1.⁹

**Table 3.14-1
Recreational Areas in Tulare County**

ID	Recreation Area	Location	Acres	Type of Use/Features
1	Alpaugh Park	Located in Alpaugh on Road 40.	3	Reservations for picnic areas are taken. No entrance fee.
2	Balch Park Campgrounds	20 miles NE of Springville in the Sierras.	160	71 Campsites. No reservations taken; first come first serve basis. Entrance fee for vehicles.
3	Bartlett Park	8 miles east of Porterville on North Drive.	127.5	Reservations for picnic areas are taken. Entrance fee for vehicles.
4	Camp COTYAC	Near Ponderosa in Eastern Tulare County.	8	County of Tulare Youth Adventure Camp (Camp COTYAC). Cabins, lodge with kitchen, restrooms and showers.
5	Cutler Park	5 miles east of Visalia on Highway 216 to Ivanhoe.	50	Reservations for picnic areas are taken. Entrance fee for vehicles.
6	Elk Bayou Park	6 miles SE of Tulare on Avenue 200.	60	Reservations for picnic areas are taken. No fee for day use.
7	Kings River Nature Preserve	2 miles east of Highway 99 on Road 28	85	This park is only for school environmental programs.
8	Ledbetter Park	1 mile northwest of Cutler on Road 124/Hwy 63	11	Reservations for picnic areas are taken. No fee.
9	Mooney Grove Park	2 Miles south of Caldwell Avenue on Mooney Blvd. In South Visalia.	143	Reservations for picnic areas are taken. Paddle boats, playground, baseball diamonds. Home of the End Trail statue. One of the largest oak woodlands in Tulare County. Location of the Agriculture and

⁵ Tulare County General Plan Update 2030, Background Report, February 2010, pages 7-71 and 7-72

⁶ Tulare County Sheriff's Department Web Site: <http://www.tularecounty.ca.gov/sheriff/>

⁷ Tulare County General Plan Update 2030, Background Report, February 2010, pages 7-75 and 7-76

⁸ Ibid., page 7-76

⁹ Tulare County Parks Department Web Site: <http://www.co.tulare.ca.us/government/parks/default.asp>

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ID	Recreation Area	Location	Acres	Type of Use/Features
				Farm Labor Museum.
10	Pixley Park	1 mile NE of Pixley on Road 124.	22	Reservations for picnic areas are taken. No fee.
11	Tulare County Museum	In Mooney Grove Park, South Visalia.	8.5	Free admission with park fee. Museum is opened Thursday thru Monday (closed Tuesday and Wednesday).
12	Woodville Park	Located in Avenue 166 in Woodville.	10	Reservations for picnic areas are taken. Day use no entrance fee.
13	West Main Street Park	2 blocks west of County Courthouse on Main Street in Downtown Visalia.	5	Day use no entrance fee.

Additional discussion of recreational facilities is provided in Chapter 3.15.

Library

“The Tulare County Public Library System is comprised of interdependent branches, grouped by services, geography and usage patterns to provide efficient and economical services to the residents of the county. At present, there are 14 regional libraries and one main branch.”¹⁰

**Table 3.14-2
Tulare County Libraries**

Branch	Address	Service Hours (2003)
Alpaugh	3816 Avenue 54 Alpaugh, CA 93201-0069	Tuesday: 10 am - 1pm, 2 pm - 6 pm Wednesday: 10 am - 1 pm, 2 pm - 6 pm
Dinuba	150 South I Street Dinuba, CA 93618-2399	Tuesday: 11 am - 5 pm, 6 pm - 8 pm Wednesday: 9 am - 1 pm, 2 pm - 6 pm Thursday: 11 am - 5 pm, 6 pm - 8 pm Friday: 9 am - 1 pm, 2 pm - 6 pm
Earlimart	780 East Washington Earlimart, CA 93219-2153	Tuesday: 10 am - 1 pm, 2 pm - 6 pm Wednesday: 10 am - 1 pm, 2 pm - 6 pm Thursday: 10 am - 1 pm, 2 pm - 6 pm Friday: 10 am - 1 pm, 2 pm - 6 pm
Exeter	230 East Chestnut Exeter, CA 93221-1712	Tuesday: 11 am - 5 pm; 6 pm - 8 pm Wednesday: 11 am - 5 pm, 6 pm - 8 pm Thursday: 9 am - 1 pm; 2 pm - 6 pm Friday: 9 am - 1 pm; 2 pm - 6 pm
Ivanhoe	15964 Heather Ivanhoe, CA 93235-1253	Wednesday: 10 am - 1 pm, 2 pm - 6 pm Thursday: 10 am - 1 pm, 2 pm - 6 pm
Lindsay	165 North Gale Hill Street Lindsay, CA 93247-2507	Tuesday: 11 pm - 5 pm; 6 pm - 8 pm Wednesday: 9 am - 1 pm; 2 pm - 6 pm Thursday: 11 am - 5 pm; 6 pm - 8 pm Friday: 9 am - 1 pm; 2 pm - 6 pm
Cutler-Orosi	12646 Avenue 416 Orosi, CA 93647-2018	Wednesday: 9 am - 1 pm, 2 pm - 6 pm Thursday: 9 am - 1 pm, 2 pm - 6 pm Friday: 9 am - 1 pm, 2 pm - 6 pm
Pixley	300 North School Pixley, CA 93256-1011	Tuesday: 9:30 am - 8 pm Wednesday: 9:30 am - 5 pm Thursday: 9:30 am - 8 pm Friday: 9:30 am - 3:30 pm Saturday: 10 am - 2 pm
Springville	35800 Highway 190 Springville, CA 93265-0257	Thursday: 11 am - 5 pm, 6 pm - 8 pm Friday: 9 am - 1 pm, 2 pm - 6 pm Saturday: 9 am - 1 pm, 2 pm - 5 pm

¹⁰Tulare County General Plan Update 2030, Background Report, February 2010, page 7-96

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Branch	Address	Service Hours (2003)
Strathmore	19646 Road 230 Strathmore, CA 93267-0595	Tuesday: 9 am - 1 pm, 2 pm - 6 pm Wednesday: 9 am - 1 pm, 2 pm - 6 pm
Terra Bella	23825 Avenue 92 Terra Bella, CA 93270-0442	Monday – Friday: 8:30 am - 2:30 pm
Three Rivers	42052 Eggers Drive 216 Three Rivers, CA 93271-0216	Wednesday: 10 pm - 1 pm, 2 pm - 6 pm Thursday: 12 pm - 1 pm, 6 pm - 8 pm Friday: 10 am - 1 pm, 2 pm - 6 pm
Tipton	301 East Woods Avenue Tipton, CA 93272-0039	Thursday: 9 am - 1 pm, 2 pm - 6 pm Friday: 9 am - 1 pm, 2 pm - 6 pm
Visalia	Main Branch 200 West Oak Avenue Visalia, CA 93291-4993	Tuesday: 9 am - 8 pm Wednesday: 9 am - 8 pm Thursday: 9 am - 8 pm Friday: 12 pm - 6 pm Saturday: 9 am - 5 pm
Woodlake	400 West Whitney Woodlake, CA 93286-1298	Wednesday: 9 am - 1 pm, 2 pm - 6 pm Thursday: 9 am - 1 pm, 2 pm - 6 pm Friday: 9 am - 1 pm, 2 pm - 6 pm

Library hours current as of February 2010

REGULATORY SETTING

Federal Agencies & Regulations

No Federal Agencies or Regulations apply to the proposed Project.

State Agencies & Regulations

No State Agencies or Regulations apply to the proposed Project.

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

PFS-7.1 Fire Protection

The County shall strive to expand fire protection service in areas that experience growth in order to maintain adequate levels of service.

PFS-7.2 Fire Protection Standards

The County shall require all new development to be adequately served by water supplies, storage, and conveyance facilities supplying adequate volume, pressure, and capacity for fire protection.

PFS-7.3 Visible Signage for Roads and Buildings

The County shall strive to ensure all roads are properly identified by name or number with clearly visible signs.

PFS-7.5 Fire Staffing and Response Time Standards

The County shall strive to maintain fire department staffing and response time goals consistent with National Fire Protection Association (NFPA) standards.

**Table 3.14-3
Fire Staffing and Responses Time Standards**

	Demographics	Staffing/Response Time	% of Calls
Urban	> 1,000 people/sq. mi.	15 FF/9 min.	90
Suburban	500-100 people/sq. mi.	10 FF/10 min.	80
Rural	< 500 people/sq. mi.	6 FF/14 min.	80
Remote*	Travel Dist. > 8 min.	4 FF/no specific response time	90

*Upon assembling the necessary resources at the emergency scene, the fire department should have the capacity to safely commence an initial attack within 2 minutes, 90% of the time. (FF = Fire Fighters)

PFS-7.6 Provision of Station Facilities and Equipment

The County shall strive to provide sheriff and fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the County's service goals. The County shall continue to cooperate with mutual aid providers to provide coverage throughout the County.

PFS-7.8 Law Enforcement Staffing Ratios

The County shall strive to achieve and maintain a staffing ratio of 3 sworn officers per 1,000 residents in unincorporated areas.

PFS-7.9 Sheriff Response Time

The County shall work with the Sheriff's Department to achieve and maintain a response time of:

1. Less than 10 minutes for 90 percent of the calls in the valley region; and
2. 15 minutes for 75 percent of the calls in the foothill and mountain regions.

PFS-7.12 Design Features for Crime Prevention and Reduction

The County shall promote the use of building and site design features as means for crime prevention and reduction.

PFS-8.1 Work with Local School Districts

The County shall work with local school districts to develop solutions for overcrowded schools and financial constraints of constructing new facilities.

PFS-8.4 Library Facilities and Services

The County shall encourage expansion of library facilities and services as necessary to meet the needs (e.g., internet access, meeting rooms, etc.) of future population growth.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

- a) Will the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

Fire protection?

Project Impact Analysis:

Less than Significant Impact with Mitigation

The proposed Project is within the service area of the Tulare County Fire Department. The County of Tulare Fire Department has 28 stations that are located throughout the County within its most densely populated areas and currently maintains minimal staffing to meet the requirements set forth under NFPA 1720-1721 for a rural area. These requirements consist of

one full-time person per station per shift with other paid on-call firefighters. Per the Tulare County Fire Department, while this is sufficient to meet the basic needs of the County, this level of staffing often results in an elevated fire loss value during some emergency conditions when compared with other departments with additional staff support¹¹.

In addition to the need for additional staff, some facilities need repairs, replacements, or facility relocations. Currently, relocations are planned for the South Visalia and Alpaugh fire stations. Additional fire stations in need of relocation included West Olive, Tulare, and Dinuba fire stations¹².

The Richgrove Fire Station, which is the nearest and would serve the proposed Project, is not listed among the stations needing relocation, repair or upgrade. Project-specific impacts related to this checklist item will potentially occur, as proposed Project implementation will increase the service area for the Richgrove Fire Station. Therefore, the following mitigation measures will be implemented to reduce Project impacts to less than significant level.

Cumulative Impact Analysis: ***Less than significant***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and Tulare County 2030 General Plan EIR.

As noted earlier, the proposed Project will not significantly impact Tulare County Fire Department's response times. Therefore, cumulative impacts related to this checklist item will be less than significant.

Mitigation Measures:

- 3.14-1** Applicant shall provide an all weather access road to the site and any facilities affected by the Special Use Permit.
- 3.14-2** Applicant shall submit plans for all new construction, and shall comply with the provisions of the 2012 Cal Green Building Code, Fire Code, Mechanical Code, Electric Code and Plumbing Code, as applicable.
- 3.14-3** The Tulare County Fire Department shall be notified of the proposed start date of any processing, storage, or special use granted and mitigated prior to initiation of any building operations.
- 3.14-4** Violations of any of these conditions shall result in Tulare County Fire Department's rescission of approval of the Special Use Permit.

¹¹ Tulare County Recirculated Draft Environmental Impact Report (SCH # 2006041162). Page 3.9-25.

¹² Ibid.

- 3.14-5** Fire Department requires a Knox box to be installed at an approved location to permit entry to the site.
- 3.14-6** Access gates shall be set back 30 feet from the roadway for fire apparatus access.
- 3.14-7** All combustible vegetation shall be removed from the site and Tulare County Fire Department approved measures taken to prevent the accumulation of the combustible vegetation that would create a fire hazard.
- 3.14-8** Access roads of an all-weather surface shall be provided so that no portions of the photovoltaic panels are farther than 155 feet from a fire apparatus access road.
- 3.14-9** Access roads shall be a minimum of 20 feet in width (non-obstructed), with a maintained 13 feet 6 inches vertical clearance.
- 3.14-10** 20-foot fire access roads shall be constructed at intervals of no greater than 310 feet.
- 3.14-11** Applicant shall be responsible for training fire personnel of facility operations, hazards and emergency procedures for shutting down the operation.
- 3.14-12** Posted address visible from roadway, min. 4 inch numbers.
- 3.14-13** If buildings are proposed, National Fire Protection Agency (NFPA) 1142 standards for rural water supplies shall be required.

Conclusion: *Less than Significant Impact with Mitigation*

With Mitigation Measures 3.14-1 thru 3.14-13, the Project specific impacts related to this checklist item will be reduced to a level of less than significant. Cumulative impacts related to this checklist item will be less than significant.

Police protection?

Project Impact Analysis: *No Impact*

The County of Tulare's Sheriff's Office will provide police protection services to the proposed Project upon development. Emergency response is adequate to the proposed Project. No residential construction is proposed for this site. There will be no impact to police services.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, the proposed Project will not impact Police Services. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None required.

Conclusion:

No Impact

As noted earlier, no Project-specific or cumulative impacts related to this checklist item are anticipated to occur.

Schools?

Project Impact Analysis:

No Impact

The nearest school, Richgrove Elementary School, is located approximately two miles southwest of the proposed Project. The Project will not include any residential housing and will not generate any new school students at any grade level.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, the proposed Project will not impact Schools. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

Parks?

Project Impact Analysis:

No Impact

The Project site is located in a remote area of Tulare County, and is not near any of the County's local parks. The nearest park to the Project is Kalibo Park in the City of Delano (approximately eight miles southwest) in Kern County. The nearest local park within the County of Tulare is Pixley Park, located approximately 17 miles northwest of the site. Absent any residential housing development, the proposed Project will not require that

employees be added, or interfere with the use of these parks during operations or construction. Therefore, there will not be an impact on parks.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, the proposed Project will not impact parks. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

Libraries?

Project Impact Analysis: *No Impact*

The proposed Project does not involve the creation of new residences. Therefore, the Project will not result in specific impacts related to this checklist item.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted previously, the proposed Project will not impact libraries. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

REFERENCES

Tulare County General Plan Update 2030, Background Report, February 2010

Tulare County Fire Department Web Site: <http://www.tularecounty.ca.gov/fire/>

Tulare County Sheriff's Department Web Site: <http://www.tularecounty.ca.gov/sheriff/>

Tulare County Parks Department Web Site:
<http://www.co.tulare.ca.us/government/parks/default.asp>

Tulare County Recirculated Draft Environmental Impact Report (SCH # 2006041162).

Recreation

Chapter 3.15

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Recreation and therefore, no mitigation measures are required. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Recreation

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Recreation. As required in Section 15126, all phases of the proposed Project will be considered was part of the potential environmental impact.

The environmental setting provides a description of the Recreational Resources in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance.

- Increase use of existing recreational facilities
- Include or require additional recreational facilities

ENVIRONMENTAL SETTING

“Tulare County contains several county, state, and federal parks. Aside from parks in the county, there are many open space areas as well. This section will highlight these various parks and open space areas and identify recreational opportunities within them.”¹ In addition to the 13 parks and recreation facilities that are owned and operated by the County of Tulare, there are State Parks and Forests, National Parks and National Forests, and trails and recreational areas.

¹Tulare County General Plan 2030 Update, Background Report, February 2010, page 4-1

Federal Recreation Areas

Lake Kaweah

“Lake Kaweah was formed after the construction of the Terminus Dam on the Kaweah River in 1962. The lake offers many recreational opportunities including fishing, camping, and boating. Lake Kaweah is located 20 miles east of Visalia on Highway 198 and was constructed by the U.S. Army Corps of Engineers for flood control and water conservation purposes. The lake has a maximum capacity to store 143,000 acre-feet of water. There are a total of 80 campsites at the lake’s Horse Creek Campground, which contains toilets, showers and a playground. Campfire programs are also available. Aside from camping, boat ramps are provided at the Lemon Hill and Kaweah Recreation Areas. Both Kaweah and Horse Creek provide picnic areas, barbecue grills and piped water. Swimming is allowed in designated areas. In addition, there is a one-mile hiking trail between Slick Rock and Cobble Knoll, which is ideal for bird watching.”²

Lake Success

“Lake Success was formed by construction of the Success Dam on the Tule River in 1961. The lake offers many recreational activities including fishing, boating, waterskiing, and picnicking. The U.S. Army Corps of Engineers (USACOE) constructed this reservoir for both flood control and irrigation purposes. The lake has a capacity of 85,000 acre-feet of water. The lake is located eight miles east of Porterville in the Sierra Nevada foothills area. Recreational opportunities include ranger programs, camping at the Tule campground, which provides 104 sites, boating, fishing, picnic sites, playgrounds and a softball field. Seasonal hunting is also permitted in the 1,400-acre Wildlife Management Area.”³

National Parks and National Forests

“Most of the recreational opportunities in the county are located in Sequoia National Forest, Giant Sequoia National Monument, and in Sequoia and Kings Canyon National Parks (SEKI). Although these parks span adjacent counties, they make a significant contribution to the recreational opportunities that Tulare County has to offer.”⁴ See Table 3.15-1 for a list of National Park and Forest facilities.

**Table 3.15-1
National Park and Forest Facilities⁵**

Recreation Area	Location	Camping Sites
Sequoia National Forest		
Gray’s Meadow	5 miles West of Independence on Onion Valley Road.	52 tent/RV sites
Oak Creek	4 ½ miles NW of Independence off Highway 395.	21 tent/RV sites
Onion Valley	14 miles West of Independence on Onion Valley Road.	29 tent/RV sites
Stony Creek	14 miles SE of Grant Grove on Generals Highway.	49 tent/RV sites
Whitney Portal	13 miles West of Lone Pine on Whitney Portal Road.	43 tent/RV sites
Total		194 sites

²Tulare County General Plan 2030 Update, Background Report, February 2010, page 4-7

³ Ibid.

⁴ Ibid., page 4-8.

⁵ Tulare County Resource Management Agency, Parks and Recreation Branch, 2008 Map.

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Recreation Area	Location	Camping Sites
Kings Canyon and Sequoia National Park		
Atwell Mill	Sequoia, 19 miles from Highway 198 on Mineral King Road.	21 tent sites
Azalea	Kings Canyon, 3 ½ miles from Kings Canyon Park entrance.	110 tent sites
Buckeye Flat	Sequoia, 11 miles South of Giant Forest of Generals Highway.	28 tent sites
Canyon View	Cedar Grove in Kings Canyon	23 tent sites
Cold Springs	Sequoia, Mineral King Area.	25 tent sites
Crystal Springs	Kings Canyon, ½ mile North of Grant Grove.	67 tent/RV sites
Dorst Creek	Sequoia, 9 miles North of Lodgepole off Generals Highway.	210 tent/RV sites
Lodgepole	Sequoia, 4 miles NE of Cedar Grove.	203 tent/RV sites
Moraine	Kings Canyon, 1 mile East of Cedar Grove.	120 tent/RV sites
Potwisha	Sequoia, 4 miles NE of Ash Mountain entrance off Generals Highway.	42 tent/RV sites
Sentinel	In the Cedar Grove area near the Kings River.	82 tent sites
Sheep Creek	Kings Canyon, 1/2-mile West of Cedar Grove.	111 tent/RV sites
South Fork	Sequoia, 13 miles on South Fork from Highway 198.	10 tent sites
Sunset	In the Grant Grove area 3 miles from Kings Canyon park entrance.	157 tent sites
Total		1,209 sites

Sequoia National Forest

“Sequoia National Forest takes its name from the Giant Sequoia, which is the world’s largest tree. There are more than 30 groves of sequoias in the lower slopes of the park. The park includes over 1,500 miles of maintained roads, 1,000 miles of abandoned roads and 850 miles of trails for hikers, off-highway vehicle users and horseback riders. The Pacific Crest Trail connecting Canada and Mexico, crosses a portion of the forest, 78 miles of the total 2,600 miles of the entire trail. It is estimated that 10 to 13 million people visit the forest each year.”⁶

Giant Sequoia National Monument

“The Giant Sequoia National Monument was created in 2000 by President Clinton in an effort to preserve 34 groves of ancient sequoias located in the Sequoia National Forest. The Monument includes a total of 327,769 acres of federal land, and provides various recreational opportunities, including camping, picnicking, fishing, and whitewater rafting. According to the Giant Sequoia National Monument Management Plan EIS, the Monument includes a total of 21 family campgrounds with 502 campsites and seven group campgrounds. In addition, there are approximately 160 miles of system trails, including 12 miles of the Summit National Recreation Trail.”⁷

Sequoia and Kings Canyon National Parks (SEKI)

“The U.S. Congress created the Kings Canyon National Park in 1940 and Sequoia National Park in 1890. Because they share many miles of common boundaries, they are managed as one park. The extreme large elevation ranges in the parks (from 1,500 to 14,491 feet above sea level), provide for a wide range of vegetative and wildlife habitats. This is witnessed from exploring Mt. Whitney, which rises to an elevation of 14,491 feet, and is the tallest mountain in the contiguous United States. During the summer months, park rangers lead walks through the parks,

⁶Tulare County General Plan, 2030 Update, Background Report, February 2010, page 4-9

⁷ Ibid., page 4-9.

and tours of Crystal and Boyden Caves. During the winter, visitors explore the higher elevations of the parks via cross country skis or snowshoes, or hike the trails in the foothills. The SEKI also contains visitor lodges, the majority of which are open year round. According to the National Parks Conservation Association, a combined total of approximately 1.4 million people visit the two parks on an annual basis.”⁸

State Parks and Forests

Colonel Allensworth State Park

“The only State Park in Tulare County is Colonel Allensworth State Historic Park discussed in Section 9.3. The park contains a museum and a visitor center addressing the town’s history, as well as camping facilities. Allensworth is the only California town to be founded, financed and governed by African Americans. The small farming community was founded in 1908 by Colonel Allen Allensworth and a group of others dedicated to improving the economic and social status of African Americans. Uncontrollable circumstances, including a drop in the area’s water table, resulted in the town’s demise. With continuing restoration and special events, the town is coming back to life as a state historic park. The park’s visitor center features a film about the site. A yearly rededication ceremony reaffirms the vision of its pioneers.”⁹

Mountain Home State Forest

“The Mountain Home State Forest is a State Forest managed by the California Department of Forestry and Fire Protection (CDF). The Forest consists of 4,807 acres of parkland containing a number of Giant Sequoias, and is located just east of Porterville. The Forest is a Demonstration Forest, which is considered timberland that is managed for forestry education, research, and recreation. Fishing ponds, hiking trails, and campsites are some of the amenities that can be found in the Forest.”¹⁰

Other Recreational Facilities

Several County, State and Federal recreational areas can be found in Tulare County, as seen in Table 3.15-2.

**Table 3.15-2
Recreational Areas in Tulare County¹¹**

ID	Recreation Area	Location	Acres	Type of Use/Features
County				
1	Alpaugh Park	Located in Alpaugh on Road 40.	3	Reservations for picnic areas are taken. No entrance fee.
2	Balch Park Campgrounds	20 miles NE of Springville in the Sierras.	160	71 Campsites. No reservations taken; first come first serve basis. Entrance fee for vehicles.
3	Bartlett Park	8 miles east of Porterville on North Drive.	127.5	Reservations for picnic areas are taken. Entrance fee for vehicles.
4	Camp COTYAC	Near Ponderosa in Eastern Tulare County.	8	County of Tulare Youth Adventure Camp (Camp COTYAC). Cabins, lodge with kitchen, restrooms and showers.

⁸ Tulare County General Plan, 2030 Update, Background Report, February 2010, page 4-9

⁹ Tulare County General Plan, Update 2030, Recirculated DEIR, February 2010, page 4-3

¹⁰ Ibid., page 4-7.

¹¹ Tulare County Resource Management Agency, Parks and Recreation Branch, 2008; Automobile Club of Southern California, Tulare County Map.

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ID	Recreation Area	Location	Acres	Type of Use/Features
5	Cutler Park	5 miles east of Visalia on Highway 216 to Ivanhoe.	50	Reservations for picnic areas are taken. Entrance fee for vehicles.
6	Elk Bayou Park	6 miles SE of Tulare on Avenue 200.	60	Reservations for picnic areas are taken. No fee for day use.
7	Kings River Nature Preserve	2 miles east of Highway 99 on Road 28	85	This park is only for school environmental programs.
8	Ledbetter Park	1 mile northwest of Cutler on Road 124/Hwy 63	11	Reservations for picnic areas are taken. No fee.
9	Mooney Grove Park	2 Miles south of Caldwell Avenue on Mooney Blvd. In South Visalia.	143	Reservations for picnic areas are taken. Paddle boats, playground, baseball diamonds. Home of the End Trail statue. One of the largest oak woodlands in Tulare County. Location of the Agriculture and Farm Labor Museum.
10	Pixley Park	1 mile NE of Pixley on Road 124.	22	Reservations for picnic areas are taken. No fee.
11	Tulare County Museum	In Mooney Grove Park, South Visalia.	8.5	Free admission with park fee. Museum is opened Thursday thru Monday (closed Tuesday and Wednesday).
12	Woodville Park	Located in Avenue 166 in Woodville.	10	Reservations for picnic areas are taken. Day use no entrance fee.
13	West Main Street Park	2 blocks west of County Courthouse on Main Street in Downtown Visalia.	5	Day use no entrance fee.
State				
14	Colonel Allensworth State Historic Park	7 miles west of Earlimart on County Road J22.	na	15 campsites, open year round.
15	Mountain Home State Forest	Located in Sequoia National Forest	na	No reservations taken for campgrounds.
Federal				
16	Lake Kaweah	25 miles east of Visalia on Highway 198.	2,558	Horse Creek Campground, boat ramps, picnic areas, swimming, and hiking.
17	Lake Success	10 miles SE of Porterville on Highway 198.	2,450	Tule Campground, boating, fishing, picnic areas, playgrounds, and softball field. Hunting is permitted in the Wildlife Management Area.
18	Sequoia National Forest	Southeastern portion of Tulare County.	na	Campgrounds include Gray's Meadow, Oak Creek, Onion Valley, Stony Creek, Sunset, and Whitney Portal with over 300 campsites.
19	Giant Sequoia National Monument	Covers areas north and south of Sequoia and Kings Canyon National Parks.	na	
20	Sequoia and Kings Canyon National Parks (SEKI)	Northeastern portion of Tulare County.	na	Campgrounds include Atwell Mill Campground, Buckeye Flat, Cold Springs, Crystal Springs, Dorst Campground, Lodgepole, Moraine, Potwisha, Sheep Creek, and South Fork with over 800 campsites.
Total Acres				5,701

Other recreational resources available in Tulare County include portions of the Pacific Crest Trail, South Sierra Wilderness Area, Dome Land Wilderness Area, Golden Trout Wilderness Area, International Agri-Center, and the Tulare County Fairgrounds.¹²

In addition, there are several nature preserves open to the public which are owned and operated by non-profit organizations, including the Kaweah Oaks Preserve and Dry Creek- Homer Ranch preserves, both owned and operated by Sequoia Riverlands Trust.

¹² Tulare County General Plan, 2030 Update, Recirculated DEIR, February 2010, page 3.9-32

Incorporated cities in the County also have a number of recreational facilities including neighborhood parks, play lots, pocket parks and other recreation facilities."¹³ The City of Delano has several small parks and recreational areas with the nearest to the proposed Project being Kalibo Park which is located approximately seven miles southwest.¹⁴

REGULATORY SETTING

The following environmental regulatory settings were summarized, in part, from information contained in the *Tulare County General Plan 2010 Background Report*.

Federal Agencies & Regulations

United States National Park Service (NPS)

"The National Park Service (NPS) is a bureau of the U.S. Department of the Interior. The NPS manages the 397 units of the National Park System. The NPS also helps administer dozens of affiliated sites, the National Register of Historic Places, National Heritage Areas, National Wild and Scenic Rivers, National Historic Landmarks, and National Trails."¹⁵

State Agencies & Regulations

California Department of Parks and Recreation

"California Department of Parks and Recreation manages more than 270 park units, which contain the finest and most diverse collection of natural, cultural, and recreational resources to be found within California. These treasures are as diverse as California: From the last stands of primeval redwood forests to vast expanses of fragile desert; from the lofty Sierra Nevada to the broad sandy beaches of our southern coast; and from the opulence of Hearst Castle to the vestiges of colonial Russia. California State Parks contains the largest and most diverse natural and cultural heritage holdings of any state agency in the nation. State park units include underwater preserves, reserves, and parks; redwood, rhododendron, and wildlife reserves; state beaches, recreation areas, wilderness areas, and reservoirs; state historic parks, historic homes, Spanish era adobe buildings, including museums, visitor centers, cultural reserves, and preserves; as well as lighthouses, ghost towns, waterslides, conference centers, and off-highway vehicle parks. These parks protect and preserve an unparalleled collection of culturally and environmentally sensitive structures and habitats, threatened plant and animal species, ancient Native American sites, historic structures and artifacts the best of California's natural and cultural history."¹⁶

Local Policy & Regulations

ERM-5.2 Park Amenities

¹³ Tulare County General Plan, 2030 Update, Recirculated DEIR, February 2010, page 3.9-29

¹⁴ Ibid., page 3.9-29

¹⁵ National Park Service Overview Brochure, Updated May, 2011

¹⁶ California Dept. of Parks and Recreation, http://www.parks.ca.gov/?page_id=91

The County shall provide a broad range of active and passive recreational opportunities within community parks. When possible, this should include active sports fields and facilities, community center/recreation buildings, children's play areas, multi-use areas and trails, sitting areas, and other specialized uses as appropriate.

ERM-5.3 Park Dedication Requirements

The County shall require the dedication of land and/or payment of fees, in accordance with local authority and State law (for example the Quimby Act), to ensure funding for the acquisition and development of public recreation facilities.

ERM-5.5 Collocated Facilities

The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

Project Impact Analysis:

No Impact

Typically, the increased use of parks and recreational facilities result from the addition of new housing and the accompanying growth of persons. No new housing is proposed as part of the proposed Project. The majority of site employees will be temporary during the construction period, and only three full time operational jobs are anticipated. Moreover, the nearest neighborhood parks (Kalibo Park, Frederick Field) are located in Kern County (in the City of Delano), approximately seven miles southwest of the site. As a result of the proposed Project's land use, and the distance of the site to these existing recreational facilities, there will be no impact.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project does not include housing or the accompanying population growth. The proposed Project will result in the need for up to three full time employees and up to seven temporary, which will not significantly increase the use of parks or recreational facilities. Because Tulare County has an average unemployment rate of 15.7%, significantly higher than the State and national average, it is anticipated that the jobs will be filled from the local existing work force.¹⁷ As such, less than significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Project Impact Analysis: *No Impact*

The proposed Project does not include new recreational facilities or the expansion of recreational facilities. As such, no Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

¹⁷ Bureau of Labor Statistics, December 2012, accessed March 5, 2013. <http://data.bls.gov/map/MapToolServlet>

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, the proposed Project does not include new recreational facilities or the expansion of recreational facilities. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

REFERENCES

Tulare County General Plan 2030 Update, Background Report, February 2010

Tulare County Resource Management Agency, Parks and Recreation Branch, 2008

Tulare County Recirculated Draft Environmental Impact Report (SCH # 2006041162).

National Park Service Overview Brochure, Updated May, 2011

California Department of Parks and Recreation, http://www.parks.ca.gov/?page_id=91

Bureau of Labor Statistics, December 2012, accessed March 5, 2013.
<http://data.bls.gov/map/MapToolServlet>

Transportation/Traffic

Chapter 3.16

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to transportation and traffic, and therefore, no mitigation measures are required. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A Traffic Investigation report was prepared by consultants Ruettggers & Schuler Civil Engineering for Tulare Solar Center and is included as Appendix H. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Transportation and Traffic

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to transportation and traffic. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in 15126.2 a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”

The environmental setting provides a description of the Transportation and Traffic in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, the Tulare County General Plan Background Report and/or the Tulare County

General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

ABBREVIATIONS

(AADT)	Annual Average Daily Traffic
(AWSC)	All-Way Stop-Controlled
(HCM)	Highway Capacity Manual
(LOS)	Level of Service
(SR)	State Route, or California Highway
(TIS)	Traffic Investigation Study
(TWSC)	Two-Way Stop-Controlled

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Result in a Level of Service (LOS) less than “D”
- Unsafe roadway/circulation design
- Impact Air Traffic
- Dangerous Site Design
- Inadequate Access
- Need for additional Public Transit
- Need for additional Bike Facilities
- Need for additional Pedestrian Facilities

Supporting Traffic Investigation Study

A Traffic Investigation Study (TIS) was prepared for the proposed Project by the consulting firm of Ruettgers and Schuler, Civil Engineering. The results of the TIS were reported in a letter dated June 4, 2013, and the letter is included as Appendix I of this DEIR. The TIS evaluated impacts during construction and operation phases in the following scenarios:

- Intersection Level of Service (LOS), and
- Roadway Capacity

The TIS concluded that no impacts would result for phase in either scenario

Essential components of the TIS will be incorporated as appropriate into the relevant sections below.

ENVIRONMENTAL SETTING

“Tulare County has two major regional highways, State Highway 99 and 198. State Highway 99 connects Tulare County to Fresno and Sacramento to the north and Bakersfield to the south. State Highway 198 connects from U.S. Highway 101 on the west and continues eastward to Tulare County, passing through the City of Visalia and into Sequoia National Park. The highway system in the County also includes State highways, County-maintained roads, and local streets within each of the eight cities.”¹

An additional highway pertinent to the proposed Project is the State Highway 65 (also known as State Route, or SR 65) which traverses north-south and lies generally along the eastern edge of the valley portion of the County. The constructed portion of SR 65 extends south from 198 in the City of Exeter, and connects the Cities of Lindsay and Porterville and continues south through the Census Designated Places of Terra Bella and Ducor on into Kern County where it intersects with SR 99 just north of Bakersfield at the community of Oildale.

On a year-round basis, SR 65 functions as a significant route for recreational traffic to Sequoia and Kings Canyon National Parks. SR 65 also serves as a route for agricultural products with truck volumes ranging from 10 to 27 percent. Annual Average Daily Traffic (AADT) for Route 65 ranges from a low of 6,000 AADT in Segment 2 Post Mile (PM 1.7-11.9, KP 2.7-19.2) in Kern County, to a high of 16,000 AADT in Segment 9 (PM 21.8-28.9; KP 35.1-46.5) in Tulare County (roughly near Lindsay and vicinity north of Porterville.).²

The proposed Project lies within the Caltrans designated “Segments 5-7: Tulare County Line to State Route 190 (Porterville)” described as follows:³

Bordered by agricultural land from the Tulare County line to Avenue 56 (PM R7.0, KP 11.3) at Ducor, Route 65 is a 2-lane Expressway. It crosses the White River (PM R5.1, KP 8.6) and is intersected by the Union Pacific Railroad (PMR5.4, KP 8.7). Because the highway crosses the railroad below grade, the railroad separation poses a primary constraint to improvements. The route remains a 2-lane rural highway to the south edge of Porterville. Environmental/biological concerns include water quality, archaeological resources, and agricultural land conversions.

“Tulare County’s transportation system is composed of several State Routes, including three freeways, multiple highways, as well as numerous county and city routes. The county’s public transit system also includes two common carriers (Greyhound and Orange Belt Stages), the AMTRAK Service Link, other local agency transit and paratransit services, general aviation, limited passenger air service and freight rail service.”⁴

“Some prominent county roadways include, but are not limited to, Alta Avenue (Road 80), Caldwell Avenue/Visalia Road (Avenue 280), Demaree Road/Hillman Street (Road 108), Tulare Avenue (Avenue 232), Olive Avenue (Avenue 152), Spruce Road (Road 204), El Monte Way

¹ Tulare County General Plan 2030 Update, page 13-2

² State Route 65 Transportation Concept Report, Office of System Planning, California Department of Transportation, District 6, June 2002, pgs 2-4, 10, 11, 20-21, http://www.dot.ca.gov/dist6/planning/tcrs/sr65tcr/sr65_full_document.pdf

³ Ibid

⁴ Tulare County General Plan Update 2030, Background Report, February 2010, page 5-4

(Avenue 416), Paige Avenue (Avenue 216), Farmersville Boulevard (Road 164), Road 192, and Road 152. Additionally, the highway system includes numerous county-maintained local roads, as well as local streets and highways within each of the eight cities and several unincorporated communities.”⁵

“Travel within Tulare County is a function of the size and spatial distribution of its population, economic activity, and the relationship to other major activity centers within the Central Valley (such as Fresno and Bakersfield) as well as more distant urban centers such as Los Angeles, Sacramento, and the Bay Area. In addition, there is considerable travel between the northwest portions of Tulare County and southern Fresno County and travel to/from Kings County to the west. Due to the interrelationship between urban and rural activities (employment, housing, services, etc.) and the low average density/ intensity of land uses, the private automobile is the dominant mode of travel for residents in Tulare County.”⁶

“According to the 2005 HCM, LOS is categorized by two parameters, uninterrupted flow and interrupted flow. Uninterrupted flow facilities have no fixed elements, such as traffic signals, that cause interruptions in traffic flow (e.g., freeways, highways, and controlled access). Interrupted flow facilities have fixed elements that cause an interruption in the flow of traffic such as stop signs, signalized intersections, and arterial roads (Transportation Research Board). The difference between uninterrupted flow and interrupted LOS is defined in Table 3.16-1.”⁷

**Table 3.16-1
Uninterrupted Traffic Flow Facilities LOS⁸**

LOS A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
LOS B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
LOS C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with others vehicles in the traffic stream.
LOS D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted and the driver experiences a generally poor level of comfort and convenience.
LOS E	Represents operating conditions at or near level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
LOS F	Is used to define forced or breakdown flow (stop and go gridlock). This condition exists wherever the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within queues are characterized by stop and go waves and they are extremely unstable.

⁵ Ibid., page 5-7

⁶ Ibid., page 5-4

⁷ 2011 Regional Transportation Plan, Tulare County Association of Governments (TCAG), July 11, 2012, page 3-17

⁸ Ibid.

**Table 3.16-2
Interrupted Traffic Flow Facilities LOS⁹**

LOS A	Describes operations with average intersection stopped delay of ten seconds or less (how long a driver must wait at a signal before the vehicle can begin moving again).
LOS B	Describes operations with average intersection stopped delay in the range of 10.0 to 20.0 seconds per vehicle, and with reasonably unimpeded operations between intersections.
LOS C	Describes operations with higher average stopped delays at intersections (in the range of 20.0 to 35.0 seconds per vehicle). Stable operations between locations may be more restricted due to the ability to maneuver and change lanes at mid-block locations can be more restrictive than LOS B. Further, longer queues and/or adverse signal coordination may contribute to lower average speeds.
LOS D	Describes operations where the influence of delay is more noticeable (35.0 to 55.0 seconds per vehicle). Intersection stopped delay is longer and the range of travel speeds are about 40 percent below free flow speed. This is caused by inappropriate signal timing, high volumes and some combinations of these.
LOS E	Is characterized by significant approach stopped delay (55.0 to 80.0 seconds per vehicle), and average travel speeds of one-third the free flow speed or lower. These conditions are generally considered to represent the capacity of the intersection or arterial.
LOS F	Characterizes arterial flow at extremely low speeds, with high intersection stopped delay (greater than 80.0 seconds per vehicle). Poor progression, long cycle lengths and high traffic demand volumes may be major contributing factors to this condition. Traffic may be characterized by frequent stop-and-go conditions.

“Public transportation provides an economical and efficient alternative for getting people to work, school and other chosen destinations. In Tulare County, buses are the primary mode of public transportation. Public transportation also takes the form of shared ride taxi, automobile and vanpools; dial-a-ride, and specialized handicapped accessible services. In Tulare County, social service transportation is provided by the following: local transit agencies, demand responsive operators and city/county special programs for senior citizens, mental health organizations and disabled citizens programs. These programs are funded and subsidized through State and federal grants, Local Transportation Funds (LTF), State Transit Assistance Funds (STAF), and local transportation sales tax revenues.”¹⁰

The TIS evaluation included a review of the proposed project trip generation for both the construction phase and normal operation, as well as an analysis of roadway and intersection capacities near the Project. The TIS also described and evaluated the proposed trip distribution for the anticipated construction traffic, which will be higher, and therefore more representative of “worst case scenario” than the operational phase traffic.

Traffic

“The following criterion is a starting point in determining when a Traffic Impact Study (TIS) is needed. When a project:

1. Generates over 100 peak-hour operational trips assigned to a State highway facility

⁹ Ibid.

¹⁰ 2011 Regional Transportation Plan, Tulare County Association of Governments (TCAG), July 11, 2012, page 1-14

2. Generates 50 to 100 peak-hour operational trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS “C” or “D”).
3. Generates 1 to 49 peak-hour operational trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis⁴:
 - a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS “E” or “F”).
 - b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points).
 - c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).”¹¹

As described in the TIS, the facility would operate year-round, producing electric power during daytime hours. The proposed schedule for construction is to begin grading and construction of the facility in 2013. Full build-out of the Project could occur over several years, or in a single year, with Project phases (e.g. multiple 10 or 20 MW phases or a single 80 MW phase) being completed on a schedule necessary to deliver electricity pursuant to the requirements of Power Purchase Agreements (PPAs) entered into with the contracting utility or utilities.

The proposed Project will generate temporary traffic increases related to short-term, construction-related activities, as well as long term traffic impacts related to operational activities. Based upon the Project proponent’s statements accompanying the special use permit application, and the Ruettggers and Schuler Traffic Investigation Study; anticipated traffic increases are summarized as follows:

Temporary – Short-Term Construction Activities:

(Note to reader: The following narrative has been excerpted from the TIS prepared by Ruettggers and Schuler, Civil Engineering. Please refer to Appendix I for the complete study.)

Traffic generated during the construction phase will include personnel vehicles and heavy trucks delivering materials and construction equipment. The analysis shows the impacts of construction traffic accessing the project site from State Route 65 at the 12th Avenue and 24th Avenue intersections, as well as the intersection of State Route 65 and State Route 155. Trip generation estimates for construction traffic utilizing these roadways are presented in Table 3.16-3, and are based on a worst case scenario where the project is completed in a single phase, as described in the project description provided.

¹¹ Guide for the Preparation of Traffic Impact Studies, California Department of Transportation, December 2002, page 2.
http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

**Table 3.16-3
Project Trip Generation – Construction Phase**

Vehicle Type	Variable	ADT	AM Peak Hour Trips		PM Peak Hour Trips	
			In % Split/ Trips	Out % Split/ Trips	In % Split/ Trips	Out % Split/ Trips
Personnel	198 ¹ (Per Day)	330 ²	100% 132 ²	0% 0	0% 0	100% 132 ²
Heavy Truck	90 ¹ (Per Day)	306 ³	100% 31 ³	0% 0 ³	0% 0 ³	100% 31 ³
TOTAL		636	163	0	0	163

¹ Variables represent worst case scenario where project is completed in a single phase

² Includes medium truck trips & 1.5 workers/vehicle

³ Represents passenger-car equivalent for heavy truck traffic per HCM Ex. 20-9
(Level Terrain)

Approximately 198 workers are expected to be on site daily during the peak of the construction operations. It is anticipated that workers will carpool to the site in both company and non-company vehicles; therefore, an occupancy rate of 1.5 persons per vehicle was used. The workers will commute to and from the Project site, resulting in approximately 330 daily personnel vehicle trips (combined inbound, outbound and associated mid-day trips). For purposes of this study, a conservative estimate was made that all worker trips will arrive and depart within the peak hour, which equates to 132 peak hour trips in both the AM and PM time frame. This rate includes three additional medium duty truck trips defined in the project description.

An estimate of 90 heavy trucks, both material and equipment, will enter and depart the Project site per day during the peak of construction/delivery operations. This will result in a total of 180 truck trips per day which equates to 306 passenger-car equivalent trips per day. Following Highway Capacity Manual guidelines, Exhibit 20-9, heavy truck volumes were converted to passenger-car equivalent volumes using a factor of 1.7 trips per day (assuming level terrain). It was assumed that these truck trips would enter and exit the Project site throughout the work day. To determine the peak hour, a conservative assumption of 20% of the total daily truck traffic was used (either AM or PM), which equates to approximately 31 peak hour truck trips in both the AM and PM time frame.

The approximate directional distribution of construction traffic is shown in Table 3.16-4.

**Table 3.16-4
Project Trip Distribution and Assignment**

Direction	Percentage	Description
North	20	State Route 65
East	5	State Route 155
South	50	State Route 65
West	25	State Route 65

Construction Access

At the time of the preparation of this report there were no detailed access or circulation plans prepared. However, during the preparation of access design and internal circulation a review of turning radii and other design considerations will be taken into account for the expected trucks which will be accessing the construction areas. It is anticipated that primary access to the property would be provided along Avenue 12 and 24, which connect to State Route 65 north of State Route 155.

Permanent – Long Term Operational Activities:

After construction is complete, it is anticipated that there would be a maximum of ten employees on site on any given day to operate and maintain the solar facilities with occasional addition of maintenance vehicles. Operations and maintenance activities, such as module washing, are anticipated at regular intervals and will increase traffic to the site. Trip generation estimates for traffic accessing the Project site during normal operation and module washing activities are presented in Table 3.16-5.

**Table 3.16-5
Project Trip Generation – Operation Phase**

General Information			AM Peak Hour Trips		PM Peak Hour Trips	
Vehicle Type	Variable	ADT	In % Split/ Trips	Out % Split/ Trips	In % Split/ Trips	Out % Split/ Trips
Personnel	10 ¹ (Per Day)	20	100% 10	0% 0	0% 0	100% 10
TOTAL	0	20	10	0	0	10

¹ Based on maximum estimated O&M personal

Existing Traffic

Existing PM and AM peak hour turning movement volumes were field measured using an electronic board at the study intersections in September 2012.

Site Access and Roadways

Access to the site would be via either from Avenues 12 or 24 that intersect with SR 65.

Currently, according to Tulare County RMA-Public Works, Avenue 12 is classified as a Local Road County-maintained right-of-way, and has a complete 17 foot paved width (for two travel lanes) and a limited gravel-dirt space on the shoulders on each side. Avenue 24 is classified as a Local Road County-maintained right-of-way and has a 19 feet. paved width (for two travel lanes) and a limited gravel-dirt space on the shoulders on each side.

According to Caltrans' SR 65 Transportation Concept Report (TCR), prepared June 2002¹², the proposed Project site is located along Segment 5 of the 17 identified segments of SR 65. The area of SR65 which bi-sects the Project site has an existing 110 ft. wide right-of-way, with two travel lanes and approximately 5 feet. of shoulders on each side. SR65 is planned for an ultimate right-of-way of 194 ft. in width with four travel lanes. The Caltrans 2002 TCR designates this stretch of highway with a Level of Service of LOS B¹³.

The intersections of SR 65 with Avenue 24 and Avenue 12 are both TWSC in the east-west direction. There are no left turn pockets within SR 65 at Avenue 24. Within the site, pervious roadways would provide access to the PV modules and the substation. Points of ingress/egress will maintain a minimum of a 20 ft. driveway length from the edge of the adjacent road, with a width of 20 feet.

The on-site road system will utilize permeable surfaces with widths and right-of-ways of 15 and 20 feet respectively. Depending on subsurface soil types, either varying depths of granular aggregate or another engineered stabilization solution will be used. The roads will be designed and installed according to geotechnical engineering recommendations. It is anticipated that any road gravel/aggregate would typically be two to four inches deep. Roads will be graded and compacted pursuant to typical construction practices necessary for service roads and to minimize the amount of gravel import and placement.

Perimeter roads at least 20 feet. wide and surfaced with gravel, will be constructed around the facility. This perimeter road will provide a fire buffer in accordance with the requirements of the Tulare County Fire Department, will accommodate Project O&M activities, and will also facilitate onsite circulation for emergency vehicles. O&M roads will be constructed to accommodate passenger vehicles consistent with a light-duty utility vehicle or pickup truck.

Additional internal access roads/pathways (for periodic panel washing and system maintenance) will also exist and will be unsurfaced dirt roads, most likely planted with ground cover plant material, with widths determined during final engineering.

¹² State Route 65 Transportation Concept Report, Office of System Planning, California Department of Transportation, District 6, June 2002, pages 2-4, 10, 11, 20-21, http://www.dot.ca.gov/dist6/planning/tcrs/sr65tcr/sr65_full_document.pdf

A minimum 50 foot. setback is proposed from the property line to all solar panels and equipment where needed to ensure land use compatibility with adjacent land uses.

Airport

“There are nine public use airports in Tulare County. These include six publicly owned and operated facilities (Porterville Municipal, Sequoia Field, Tulare Municipal [Mefford Field], Visalia Municipal, Woodlake, and Harmon Field [currently closed]) and three privately owned and operated airports (Alta Airport [currently closed], Thunderhawk Field, and Eckert Field). Badger Field is under consideration for Federal Aviation Administration (FAA) recertification as a restricted private airfield (as of August 2006).”¹³

Design for Emergency Access

According to § 21060.3 and § 15359 of the CEQA Guidelines, an “Emergency” means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. “Emergency” includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage. A proposed Project could potentially generate impacts through inadequate design for emergency access.

Alternative Transportation

“TCAT has been providing rural route service between various cities and towns in Tulare County since 1981. TCAT retains MV Transportation to provide all of its transit services, which includes fixed route and demand responsive services for inter-city and intra-city service in many small communities throughout the County. TCAT is the most extensive transit system in Tulare County and connects with Dinuba Area Regional Transit (DART), Visalia City Coach (VCC), Tulare InterModal Express (TIME), Porterville City Operated Local Transit (COLT), Kings Area Rural Transit (KART), Kern Regional Transit, Orange Belt and Greyhound bus.”¹⁴

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

Caltrans: Transportation Concept Reports

Caltrans has prepared a number concept reports for State Routes, Interstate Routes, and US Routes for each District. Tulare County is located in Caltrans District 6. The concept report that applies to the Proposed Project is the SR 65. Transportation Concept Report prepared in June of 2002. As noted earlier, the proposed Project site lies within Segment 5 consisting of 7 miles

¹³ Tulare County General Plan Update 2030, page 13-2

¹⁴ 2011 Regional Transportation Plan, Tulare County Association of Governments (TCAG), July 11, 2012, Page 1-14

from the Kern County Line north to Avenue 56 at Ducor. According to the Report, a Caltrans project involving upgrading of this roadway was completed in 2010.

As of the year 2002, Route 65 is operating primarily at LOS D and LOS E from Bakersfield to Route 198 in Tulare County. Segment 5 had an LOS of D in 2002. The Concept LOS B for Segment 5 will be met through improvements on all segments, which will be widened to a 4-lane Expressway by the year 2025. There will be no residual capacity deficiencies. Additional right-of-way will be required on all segments to meet the Ultimate Transportation Corridor (UTC) of a 6-lane Freeway.

Caltrans Guide for the Preparation of Traffic Impact Studies

“The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process).

As noted previously, the proposed Project will not generate permanent traffic increases during operation to warrant the need for a TIS. Therefore, the proposed Project’s operational traffic impacts are less than significant.

Local Policy & Regulations

Tulare County Transportation Control Measures (TCM)

“Transportation Control Measures (TCM) are designed to reduce vehicle miles traveled, vehicle idling, and/or traffic congestion in order to reduce vehicle emissions. Currently, Tulare County is a nonattainment region under the Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Both of these acts require implementation of TCMs. These TCMs for Tulare County are as follows:

- Rideshare Programs;
- Park and Ride Lots;
- Alternate Work Schedules;
- Bicycle Facilities;
- Public Transit;
- Traffic Flow Improvement; and,
- Passenger Rail and Support Facilities.”¹⁵

¹⁵ Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report, page 3.2-2

Currently, public transit is available via Orange Belt lines which have a route along SR 65 serving Bakersfield to Visalia.

Tulare County Association of Governments (TCAG)

“...[W]ith the passage of Assembly Bill (AB) 69 State law has required the preparation of Regional Transportation Plans (RTPs) to address transportation issues and assist local and state decision makers in shaping California’s transportation infrastructure.”¹⁶ The Tulare County Association of Government has prepared the 2011 Regional Transportation Plan. Specific policies that apply to the Proposed Project are listed as follows:

TRANSPORTATION SYSTEM MANAGEMENT (TSM) Policy 5: Support installation of adequate left and right turning pockets to allow increased storage, as necessary.

TRANSPORTATION SYSTEM MANAGEMENT (TSM) Policy 6. Encourage improvements in design of signalized intersections to improve turning for large vehicles and circulation flow.

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

TC-1.14 Roadway Facilities

As part of the development review process, new development shall be conditioned to fund, through impact fees, tonnage fees, and/or other mechanism, the construction and maintenance of roadway facilities impacted by the project. As projects or locations warrant, construction or payment of pro-rata fees for planned road facilities may also be required as a condition of approval.

TC-1.15 Traffic Impact Study

The County shall require an analysis of traffic impacts for land development projects that may generate increased traffic on County roads. Typically, applicants of projects generating over 100 peak hour trips per day or where LOS “D” or worse occurs, will be required to prepare and submit this study. The traffic impact study will include impacts from all vehicles, including truck traffic.

TC-1.16 County Level Of Service (LOS) Standards

The County shall strive to develop and manage its roadway system (both segments and intersections) to meet a LOS of “D” or better in accordance with the LOS definitions established by the Highway Capacity Manual.

¹⁶ 2011 Regional Transportation Plan, Tulare County Association of Governments (TCAG), July 11, 2012, page 1-11

HS-1.9 Emergency Access

The County shall require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation.

IMPACT EVALUATION

Would the project:

- a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Project Impact Analysis:

Less than Significant Impact

The Tulare Solar Center Project will add an 80 MW commercial solar facility within a rural area in the proximity of SR 65. The proposed Project will contribute an estimated 26 trips per day, of administration and maintenance employee vehicle traffic to the daily traffic along County service roads and SR 65. The Project will be adjacent to SR 65 but will not affect the ability of Caltrans to obtain the necessary additional right-of-way for the 2025 Concept Plan 4-Lane Expressway future Project. Existing right-of-way is approximately 110 ft. in this location. The ultimate right-of-way to accommodate the Concept 4-Lane expressway is planned by Caltrans to be 194 ft. Solar panels are proposed to be set-back 50 ft. from the edge of current right-of-way. It is not anticipated that the location of the panels will impede the ability of Caltrans to acquire the additional approximately 42 ft. on either side of the existing SR 65 right-of-way for the ultimate 194 ft.

The Project, as proposed, will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- b) **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

Project Impact Analysis:

Less than Significant Impact

1. Intersection Level of Service: An analysis was conducted to determine the level of service of the intersections during the construction phase of the Project. The scope of intersections studied was determined using the guidelines in the Caltrans publication "Guide for the Preparation of Traffic Impact Studies", dated June 2001, which states that a facility is required to be analyzed when a project will generate more than 50 trips at a facility operating at or above a LOS C. Incidentally, the concept LOS for SR 65 throughout district 6 is LOS C. Also taken into consideration for the scope of intersections, is the proximity to major transportation facilities. The peak hour of construction traffic was determined to be from 6:00-7:00 am in the morning and 4:00-

5:00 pm in the afternoon, therefore these hours were analyzed in this evaluation. Tables 3.16-6 and 3.16-7 show the intersections, which meet these criteria and the results of the analysis.

The operation and maintenance phase of the Project generates considerably less traffic than the construction scenario, as shown in Table 3.16-5. Therefore, using the same criteria as the construction phase to determine the need to study roadway facilities, no analysis is required for the operational phase of the Project.

**Table 3.16-6
Un-signalized Intersection Level of Service
PM Peak Hour**

#	Intersection	Movement	2012	2012+ Project
1	SR 65 & Avenue 24	WB	A	C
2	SR 65 & Avenue 12	EB WB	A A	B C
3	SR 65 & SR 155	EB WB	B B	B C

**Table 3.16-7
Un-signalized Intersection Level of Service
AM Peak Hour**

#	Intersection	Movement	2012	2012+ Project
1	SR 65 & Avenue 24	WB	A	A
2	SR 65 & Avenue 12	EB WB	A A	A A
3	SR 65 & SR 155	EB WB	B B	B B

As noted in the Environmental and Regulatory Setting sections, no significant impacts to levels of service will occur. The proposed Project will not impact any other congestion management standard. As such, no Project-specific impacts related to this checklist item will occur.

2. **Roadway Capacity:** Table 3.16-8 contains roadway capacity data for roadway segments in the vicinity of the Project. A volume-to-capacity ratio (v/c) of greater than 0.80 corresponds to a LOS of less than C, as defined in the Highway Capacity Manual. The same guidelines used for intersection analysis from the Caltrans guidelines were used to determine the scope of roadways to perform the analysis. The analysis shown in Table 3.16-8 includes construction-related traffic only.

Table 3.16-8

Roadway Capacity

Street	2011 ¹	2012 ²	Project Construction ADT	KCOG 2006	Existing Capacity	v/c (Ex) 2011	v/c (Ex) 2012+Proj Construction
SR 65 : South of SR 155	6000	6120	254	937	15000	0.40	0.42
SR 65 : North of SR 155	8100	8262	509	836	15000	0.54	0.58
SR 155 : West of SR 65	380	388	127	1419	15000	0.03	0.03
SR 155 : East of SR 65	180	184	25	1764	15000	0.01	0.01

¹Published ADT data from Caltrans

² Growth rate of 2.00% used to grow 2011 volume to 2012.

All study roadway segments currently operate above a LOS C near the project site. With the addition of Project construction traffic the roadway will continue to operate above LOS C.

In accordance with Caltrans guidelines, a traffic impact analysis of study roadway segments is not required during the operational phase, since the roadway segments utilized by the operational phase of the project currently operates at or above LOS C and the Project will generate fewer than 50 peak hour trips during this phase.

On the basis of the technical evidence provided by the TIS, it is concluded that the Project will not create any significant impacts to any of the intersections or roadways anticipated to be used for the Project during both the construction and operation phases. Therefore, the proposed Project will result in less than significant traffic impacts.

Cumulative Impact Analysis:

Less than Significant Impact

The primary geographic area of this cumulative analysis is considered to be the entire stretch of SR 65 from SR 198 to the north (Exeter) to SR 99 to the south (Bakersfield). This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, Tulare County 2030 General Plan EIR, and the TIS.

As noted in the Environmental and Regulatory Setting sections, the proposed Project will not impact level of service in future conditions. Less than significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

Less than Significant

As noted earlier, less than significant Project-specific and cumulative impacts related to this checklist item will occur.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

Project Impact Analysis:

No Impact

The proposed Project is located approximately six miles east of the San Joaquin Sprayers Incorporated Heliport in the City of Delano, and approximately 12 miles northeast of the Delano Municipal Airport, in Kern County. Construction of the solar generation facility will not cause an increase in air traffic levels or cause a change in air traffic location. There will be no impact.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will have no Project-specific impacts and thus will not contribute to any cumulative impacts related to this checklist.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, no Project specific or cumulative impacts related to this checklist item will occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Project Impact Analysis:

No Impact

The proposed Project does not include the construction of any new public roadways, therefore, no increase in hazards related to roadway design will occur. Appropriate downward security lighting will be available around the administrative and support/ancillary structures and around the perimeter of the site to enable safe traversing in the dark. The solar

PV panel modules are proposed to be covered with dark, high-light-absorbing, low-reflective glass, and will be mounted on a corrosion-resistant metal racking system. As such, the potential for glare to drivers will be minimized. The proposed Project will include new parking areas and all weather surfaces for employee vehicles and trucks delivering administrative/maintenance material to the site. The truck routing alignment does not include sharp curves. As such, no Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is the segment of SR 65 and Avenues 12 and 24 accessing the site. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, Tulare County 2030 General Plan EIR, and the TIS.

As noted earlier, no significant design changes that will cause a hazard are proposed. As such, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

e) Result in inadequate emergency access?

Project Impact Analysis: *No Impact*

Access to the site would be via either Avenues 12 or 24, both of which connect to SR 65. Inside the site, pervious roadways would provide access to the PV modules and the substation. Points of ingress/egress will maintain a minimum of a 20 foot driveway length from the edge of the adjacent road, with a width of 20 feet.

The on-site road system will utilize permeable surfaces with widths and right-of-ways of 15 and 20 feet, respectively. Depending on subsurface soil types, either varying depths of granular aggregate or another engineered stabilization solution will be used. The roads will be designed and installed according to geotechnical engineering recommendations. It is anticipated that any road gravel/aggregate will typically be two to four inches deep. Roads will be graded and compacted pursuant to typical construction practices necessary for service roads and to minimize the amount of gravel import and placement.

Perimeter roads with at least 20 foot wide gravel surfaces will be constructed around the facility. This perimeter road will provide a fire buffer in accordance with the requirements of the Tulare County Fire Department, will accommodate Project O&M activities, and will also facilitate on-site circulation for emergency vehicles. O&M roads will be constructed to accommodate passenger vehicles consistent with a light-duty utility vehicle or pickup truck.

Additional internal access roads/pathways (for periodic module washing and system maintenance) will also exist and will be unsurfaced dirt roads, most likely planted with ground cover plant material, with widths determined during final engineering.

A minimum 50 foot setback is proposed from the property line to all solar modules and equipment where needed to ensure land use compatibility with adjacent land uses.

As a result of the number and size of access to the Project site, the Proposed Project will not create any impacts related to this checklist item.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is considered to be the segment of SR 65 and Avenues 12 and 24 accessing the site. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and Tulare County 2030 General Plan EIR.

The existing site currently has adequate access for emergency vehicles.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project specific or cumulative impacts related to this checklist item will occur.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Project Impact Analysis: *No Impact*

The proposed Project does not involve changes to public transit, bicycle facilities or pedestrian facilities. The Project site is accessible from Avenue 240 and Road 140. There are no existing or proposed bike lanes along SR 65 or any of the other surrounding County Roadways. The nearest bus route to the proposed Project is the Orange Belt Stages which travels along State Route 65. As such, no Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is the segment of SR 65 and Avenues 12 and 24 accessing the Project. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, Tulare County 2030 General Plan EIR, and the TIS.

As the proposed Project will not result in Project-specific impacts, no cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, no Project specific or cumulative impacts related to this checklist item will occur.

REFERENCES

Tulare County General Plan 2030 Update, page 13-2

Traffic Investigation for Proposed Tulare Solar Center east of Delano, CA, Ruettgers & Schuler Civil Engineers, February 2012

State Route 65 Transportation Concept Report, Office of System Planning, California Department of Transportation, District 6, June 2002, pgs 2-4, 10, 11, 20-21, http://www.dot.ca.gov/dist6/planning/tcrs/sr65tcr/sr65_full_document.pdf

Tulare County General Plan Update 2030, Background Report, February 2010, page 5-4

Tulare County Recirculated Draft Environmental Impact Report (SCH # 2006041162).

2011 Regional Transportation Plan, Tulare County Association of Governments (TCAG), July 11, 2012, page 3-17

Guide for the Preparation of Traffic Impact Studies, California Department of Transportation, December 2002, page 2. http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

State Route 65 Transportation Concept Report, Office of System Planning, California Department of Transportation, District 6, June 2002, pgs 2-4, 10, 11, 20-21, http://www.dot.ca.gov/dist6/planning/tcrs/sr65tcr/sr65_full_document.pdf

Utilities and Service Systems

Chapter 3.17

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to utilities and services systems, and therefore, no mitigation measures are required. The impact analyses and determinations in this chapter are based upon information obtained from the References listed at the end of this chapter. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Utilities and Service Systems

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to utilities and services systems. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

ABBREVIATIONS

(NPDES)	National Pollution Discharge Elimination System
(RCRA)	Resource Conservation and Recovery Act
(RWQCB)	Regional Water Quality Control Board
(SWPPP)	Storm Water Pollution Prevention Plan
(UST)	Underground Storage Tank

CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Increase wastewater beyond existing treatment capacity per the RWQCB?
- Result in the need for waste water infrastructure that would cause impacts?
- Result in the need for wastewater infrastructure that would cause impacts?
- Result in the need for water supplies or entitlements?
- Result in the determination by the wastewater provider that it has adequate capacity?
- Served by a landfill with sufficient permitted capacity to Project's needs?

ENVIRONMENTAL SETTING

“Tulare County and special districts provide many important services to County residents and businesses in unincorporated communities and hamlets such as water, wastewater, storm drainage, solid waste removal, utilities, communications, fire protection, law enforcement, and a number of other community facilities and services (schools, community centers, etc.).”¹

“Water districts supply water to communities and hamlets throughout the County. Most communities and some hamlets have wastewater treatment systems; however, several communities including Three Rivers, Plainview, Alpaugh, and Ducor rely on individual septic systems. Storm drainage facilities are generally constructed and maintained in conjunction with transportation improvements or new subdivisions in communities. Solid waste collection in the County is divided into service areas, as determined by the Board of Supervisors, with one license for each area. Southern California Edison provides electric service to the south and central areas of Tulare County while PG&E provides electric service in the north. The [Southern California] Gas Company is the primary provider of natural gas throughout the County.”²

REGULATORY SETTING

Federal Agencies & Regulations

Resource Conservation and Recovery Act (RCRA)³

Congress passed RCRA on October 21, 1976 to address the increasing problems the nation faced from our growing volume of municipal and industrial waste. RCRA, which amended the Solid Waste Disposal Act of 1965, set national goals for:

- Protecting human health and the environment from the potential hazards of waste disposal.
- Conserving energy and natural resources.
- Reducing the amount of waste generated.
- Ensuring that wastes are managed in an environmentally-sound manner
- To achieve these goals, RCRA established three distinct, yet interrelated, programs:
 - The solid waste program, under RCRA Subtitle D, encourages states to develop comprehensive plans to manage nonhazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste.
 - The hazardous waste program, under RCRA Subtitle C, establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal — in effect, from “cradle to grave.”
 - The underground storage tank (UST) program, under RCRA Subtitle I, regulates underground storage tanks containing hazardous substances and petroleum products. RCRA banned all open dumping of waste, encouraged source reduction and

¹ Tulare County General Plan Update 2030, page 14-3

² Ibid., page 14-3

³ United States Environmental Protection Agency, <http://www.epa.gov/epawaste/laws-regs/rcrahistory.htm>

recycling, and promoted the safe disposal of municipal waste. RCRA also mandated strict controls over the treatment, storage, and disposal of hazardous waste.

State Agencies & Regulations

California Energy Commission (CEC)

The CEC regulates the provision of natural gas and electricity within the State. The CEC is the State's primary energy policy and planning agency. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the State response to energy emergencies.

California Global Warming Solutions Act of 2006 (AB 32)

With the passage of AB 32 in 2006, the California Air Resources Board was required to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990, to be achieved by 2020. To achieve this requirement, a Scoping Plan was adopted in 2008. That plan includes high levels of recycling and zero waste as ways to reduce greenhouse gas emissions from landfills. "As virgin raw materials are replaced with recyclables, a large reduction in energy consumption should be realized. Implementing programs with a systems approach that focus on consumer demand, manufacturing, and movement of products will result in the reduction of greenhouse gas emissions and other co-benefits."⁴

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

⁴ Climate Change Scoping Plan, page 62

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed below.

PFS-2.3 Well Testing

The County shall require new development that includes the use of water wells to be accompanied by evidence that the site can produce the required volume of water without impacting the ability of existing wells to meet their needs.

PFS-2.5 New Systems or Individual Wells

Where connection to a community water system is not feasible per PFS-2.4: Water Connections, service by individual wells or new community systems may be allowed if the water source meets standards for quality and quantity.

PFS-3.1 Private Sewage Disposal Standards

The County shall maintain adequate standards for private sewage disposal systems (e.g., septic tanks) to protect water quality and public health.

PFS-3.4 Alternative Rural Wastewater Systems

The County shall consider alternative rural wastewater systems for areas outside of community UDBs and HDBs that do not have current systems or system capacity. For individual users, such systems include elevated leach fields, sand filtration systems, evapotranspiration beds, osmosis units, and holding tanks. For larger generators or groups of users, alternative systems, including communal septic tank/leach field systems, package treatment plants, lagoon systems, and land treatment, can be considered.

PFS-4.1 Stormwater Management Plans

The County shall oversee, as per Community Plan Content Table PF-2.1 and Specific Plan Content, Hamlet Plans Policy PF-3.3, and Table LU-4.3, the preparation and adoption of stormwater management plans for communities and hamlets to reduce flood risk, protect soils from erosion, control stormwater, and minimize impacts on existing drainage facilities, and develop funding mechanisms as a part of the Community Plan and Hamlet Plan process.

PFS-4.3 Development Requirements

The County shall encourage project designs that minimize drainage concentrations and impervious coverage, avoid floodplain areas, and where feasible, provide a natural watercourse appearance.

PFS-4.4 Stormwater Retention Facilities

The County shall require on-site detention/retention facilities and velocity reducers when necessary to maintain existing (pre-development) storm flows and velocities in natural drainage systems. The County shall encourage the multi-purpose design of these facilities to aid in active groundwater recharge.

PFS-4.5 Detention/Retention Basins Design

The County shall require that stormwater detention/retention basins be visually unobtrusive and provide a secondary use, such as recreation, when feasible.

PFS-4.7 NPDES Enforcement

The County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program.

PFS-5.3 Solid Waste Reduction

The County shall promote the maximum feasible use of solid waste reduction, recycling, and composting of waste, strive to reduce commercial and industrial waste on an annual basis, and pursue financing mechanisms for solid waste reduction programs.

PFS-5.8 Hazardous Waste Disposal Capabilities

The County shall require the proper disposal and recycling of hazardous materials in accordance with the County's Hazardous Waste Management Plan.

IMPACTS ANALYZED

The Project proposes to construct an 80 megawatt (MW) solar photovoltaic (PV) generating facility on up to 800 acres of a 1,144.33 acre site near Ducor, a Census Designated Place, located in unincorporated Tulare County.

The proposed Project consists of on-site and off-site components, as summarized below, and the impacts from construction and operation of these components have been included in the analysis.

On-site Project Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

IMPACT EVALUATION

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Project Impact Analysis:

No Impact

Although the proposed Project consists of the construction and operation of photovoltaic solar electricity generation facility, it will not include any facilities that will generate wastewater, nor will it require the construction of a new wastewater treatment facility or the expansion of existing wastewater treatment facilities. Since the proposed Project will not result in a change to facilities or operations at an existing wastewater facility, the Regional Water Quality Control Board's (RWQCB) wastewater treatment requirements will not be exceeded.

It is anticipated that the proposed Project operations will require a maximum of ten employees on site, performing typical operations and maintenance tasks, with occasions where up to ten employees might be on site at one time. Typical operations activities will require two to three employees on site. Domestic waste produced by these employees will be the only wastewater produced by the Project. The total quantity of wastewater is estimated to be approximately 13 gallons per day per employee,⁵ therefore, the estimated total typical

⁵ Metcalf & Eddy, "Wastewater Engineering," third edition, Table 2-10

wastewater flow will be 26 to 39 gallons per day, with maximum flows at 130 gallons per day. A single-family residence produces an average of approximately 210 gallons per day,⁶ therefore, the projected wastewater flow is well within the capacity of a typical septic tank and leach field system. Design for such a septic system will be submitted to the Tulare County Department of Environmental Health Services for approval prior to issuance of building permits.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will generate an estimated 26 to 39 gallons per day of new wastewater. The Project will not connect to or be serviced by a public treatment facility. No construction or expansion of a publicly-owned treatment facility will be required, therefore, there will be no cumulative impact.

Mitigation Measures:

- 3.17-1** The Project shall comply with any conditions required by the Tulare County Planning Branch and the Environmental Health and Human Services Agency for appropriate action.
- 3.17-2** The Project shall be required to obtain any applicable permit from the EHHS as appropriate.
- 3.17-3** The Project shall include all facilities as specified by the Tulare County Planning Branch and the Environmental Health and Human Services Agency.

Conclusion: *No Impact*

As proposed, the Project will have no impact on wastewater facilities at either the Project or cumulative levels.

- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Project Impact Analysis: *No Impact*

The proposed Project does not include the creation or expansion of a wastewater treatment facility. Water usage for the Project will be limited to on-site uses consisting of using water for dust suppression on all travel ways and for PV panel washing during the dry months; therefore the Project will not result in significant runoff. The Project will be designed so that

⁶ Metcalf & Eddy, "Wastewater Engineering," third edition, Table 2-9

runoff that does not evaporate will percolate through the ground surface. Drainage patterns on the site will not be significantly altered during development.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will generate a minimal increase in the amount of wastewater to be treated on site with a septic tank and leach field. No cumulative impacts will occur.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

- c) **Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Project Impact Analysis: *Less than Significant Impact*

The proposed Project will not result in a new local public storm water drainage facility or expansion of an existing facility. Storm water on the Project site is currently absorbed by the native soils or allowed to exit the project site utilizing natural drainage courses. The Project will not add significantly to the impervious area of the Project site, it will be designed to minimize and control the potential for erosion, and it will maintain existing drainage patterns. The existing storm water facilities will require the approval of the Tulare County Public Works and Environmental Health Services Departments in order to demonstrate that the Project's storm drainage facilities are sufficient to meet the storm water needs of the proposed Project.

In order to prevent water and wind erosion during the construction period, a Storm Water Pollution Prevention Plan (SWPPP) will be developed for the proposed Project as required for all projects which disturb more than one acre in area. As part of the SWPPP, the applicant will be required to provide erosion control measures to protect the topsoil. Any stockpiled soils will be watered and/or covered to prevent loss due to wind erosion as part of the SWPPP during construction. As a result of these efforts, loss of topsoil and substantial soil erosion during the construction period are not anticipated. No new storm drainage facilities will be needed. The impact will be less than significant.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will retain storm water on site. Currently, only minimal storm drainage water currently leaves the site and there is no anticipation that design features of the proposed facilities will result in additional Project-related storm drainage water leaving the site. As no additional off-site storm water impacts will occur, no cumulative impacts related to this checklist item will occur.

Conclusion:

Less than Significant Impact

As noted earlier, the Project will not have significant specific or cumulative impacts related to this checklist item, as the Project will be designed and built in accordance with regulatory agency requirements.

d) Have sufficient water supplies available to serve the project been identified from existing entitlements and resources, or are new or expanded entitlements needed?

Project Impact Analysis:

Less than Significant Impact

Water supply for the proposed Project will come from an on-site ground water well, or from an off-site water supplier. At a full 80-MW buildout, the proposed Project will result in the use of 0.37 acre-feet of water, or 0.0003 acre-feet of water per acre per year. As the average water use for crops is 3.0 feet of water per acre per year, the proposed Project's water use will be minimal and will not create significant impacts. A less than significant Project-specific impact related to this checklist item will occur.

Cumulative Impact Analysis:

Less than Significant Impact

The geographic area of this cumulative analysis Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project does not involve a Zone Change or General Plan amendment. The water usage for the existing Zoning and General Plan designations has been addressed in the General Plan EIR. Therefore, the proposed Project will not contribute to an additional cumulative water supply impact. Less than significant cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion:

As noted earlier, less than significant Project -specific and cumulative impacts related to this checklist item will occur.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Project Impact Analysis: *No Impact*

The proposed Project includes a new septic system to dispose of wastewater generated on the site. Therefore, no connections to a wastewater treatment provider are proposed or required. No Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project includes a new septic system to dispose of wastewater generated on the site. Therefore, no connections to a wastewater treatment provider are proposed or required. No cumulative impacts related to this checklist item will occur.

Mitigation Measures:

None Required.

Conclusion: *No Impact*

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Project Impact Analysis: *No Impact*

The proposed Project will have minimal solid waste. Based upon the non-office-oriented job duties of up to three employees to be located at the facility, paper and waste generated during operation will be very limited and is estimated at one 90-gallon container per week. The Project may result in the disposal of waste products at a local landfill during the construction phase; however, these quantities are expected to be very limited due to the nature of the construction. No Project-specific impacts related to this checklist item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not result in any Project-specific impacts and will not contribute to any cumulative impacts.

Mitigation Measures:

None Required.

Conclusion:

No Impact

As noted earlier, no Project-specific or cumulative impacts related to this checklist item will occur.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Project Impact Analysis:

No Impact

Project solid waste will be disposed of by the County's franchised hauler on a periodic basis and will be delivered to the County landfill. All solid waste disposal procedures will be in compliance with the relevant provisions of AB 32 and AB 939. There will be no Project-specific impacts related to this checklist item.

Cumulative Impact Analysis:

No Impact

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not result in any Project specific impacts and will not contribute to any cumulative impacts.

Conclusion:

No Impact

No Project-specific or cumulative impacts related to this checklist item will occur.

REFERENCES

Tulare County General Plan Update 2030, page 14-3

Tulare County Recirculated Draft Environmental Impact Report (SCH # 2006041162).

United States Environmental Protection Agency <http://www.epa.gov/epawaste/laws-regs/rcrahistory.htm>

Climate Change Scoping Plan, page 62

Metcalf & Eddy, “Wastewater Engineering,” third edition, Table 2-10

Mandatory Findings of Significance

Chapter 3.18

SUMMARY OF FINDINGS

The Project site was evaluated with two biological analyses which determined there were no special-status species, wildlife, plant, or prehistoric features observed on the Project site during multiple site assessments. However, due to the Project's geographic features there is potential for special status species to forage through the site. Mitigation Measures are included to reduce impacts to a less than significant level. The Project's construction phase will result in a temporary direct impact to air quality, greenhouse gas emissions, noise, and fire protection which could affect nearby sensitive receptors. Mitigation Measures are included to reduce construction impacts to a less than significant level.

INTRODUCTION

CEQA Requirements for Evaluation of Impacts to Mandatory Findings of Significance

CEQA Guidelines "Mandatory Findings of Significance" (Section 15065(a)) lists the following potential impacts that need to be addressed by a lead agency:

15065(a): *"A lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur:*

(1) The project has the potential to: substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.

(2) The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

(3) The project has possible environmental effects that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

(4) The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.”

Under the California Environmental Quality Act (CEQA), an EIR must be prepared when certain specified impacts may result from construction or implementation/operation of a project. An EIR has been prepared for the proposed Project, which fully addresses all of the Mandatory Findings of Significance, as described below.

Under Section 15065(a) of the CEQA Guidelines, a finding of significance is required if a project “has the potential to substantially degrade the quality of the environment.” In practice, this is the same standard as a significant effect on the environment, which is defined in Section 15382 of the CEQA Guidelines as “a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.” This EIR, in its entirety, addresses and discloses potential environmental affects associated with construction and operation of the proposed Project, including direct, indirect, and cumulative impacts in the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

As summarized in Project Requirements/Mitigation Measures Section, this EIR discusses potential environmental resource impacts, the level of significance prior to mitigation, Project requirements that are otherwise required by law or are incorporated as part of the Project description, feasible mitigation measures, and the level of significance after the incorporation of mitigation measures.

This section of the Draft Environmental Impact Report (DEIR) meets CEQA requirements by making mandatory findings of significance relative to impacts of the proposed Project site, located in the San Joaquin Valley portion of Tulare County. The “Environmental Setting” section summarizes environmental resources in the region, with special emphasis on the proposed Project site and vicinity. The “Regulatory Setting” provides a description of applicable

State and local regulatory policies. A description of the potential impacts of the proposed project is also provided and includes the identification of feasible mitigation to avoid or lessen the impacts.

Long Term Impacts

As described in Section 15065(a)(2), a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. This document addresses the short-term and irretrievable commitment of natural resources to ensure that the consumption is justified on a long-term basis.

Cumulative Impacts

Under Section 15065(a)(1) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. Section 4.3 (Biological Resources) of the EIR fully addresses impacts related to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species.

Impacts to Species

Section 15065(a)(1) of the CEQA Guidelines states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to eliminate important examples of a major period of California history or prehistory. Section 15065(a)(1) amplifies Public Resources Code 21001(c) requiring that major periods of California history are preserved for future generations. It also reflects the provisions of Public Resource Code Section 21084.1 requiring a finding of significance for substantial adverse changes to historical resources.

Impacts to Historical Resources

Section 15064.5 of the CEQA Guidelines establishes standards for determining the significance of impacts to historical resources and archaeological sites that are an historical resource. Section 4.4 (Cultural Resources) of this EIR (which is supported by a Cultural Resources Technical Report) fully addresses impacts related to California history and prehistory, historic resources, archaeological resources, and paleontological resources.

Impacts on Human Beings

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be

minor must be treated as significant if people will be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings will be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, population and housing, public services, transportation/traffic, and utilities, which are addressed in this EIR.

Thresholds of Significance

The geographical area may be countywide, statewide, or nationwide, depending on the nature of the impact. Thresholds of Significance for impacts to biological resources are addressed in detail in Chapter 3.4. of this document. Thresholds of Significance for impacts to cultural resources, including impacts to historic and prehistoric resources, are addressed in Chapter 3.5 of this document.

ENVIRONMENTAL SETTING

“Tulare County... is located in a geographically diverse region with the majestic peaks of the Sierra Nevada framing its eastern region, while its western portion includes the San Joaquin valley floor, which is very fertile and extensively cultivated. Tulare County is the second-leading agricultural-producing county in the U.S. Fresno County is currently (2004) the top producer. In addition to its agricultural production, the county’s economic base also includes agricultural packing and shipping operations.”¹

The Project site is located in a region of California having a Mediterranean climate. Summers are dry and typically quite warm with daytime temperatures commonly exceeding 100° Fahrenheit. Winters are rainy and cool with daytime temperatures rarely exceeding 65° Fahrenheit. Annual precipitation in the general vicinity of the project site is highly variable from year to year with a mean annual rainfall of approximately 12 inches, most of which falls between the months of October and March. Virtually all precipitation falls in the form of rain. Stormwater infiltrates onsite soils and due to the impervious nature of the Project, stormwater remains onsite.²

The native vegetation of the Valley is predominately characterized by the purple needlegrass series, valley oak series, vernal pools and wetland communities, and blue oak series. Fauna associated with this section include mule deer (*Odocoileus hemionus*), black-tailed deer (*Odocoileus hemionus columbianus*), coyotes (*Canis latrans*), white-tailed jackrabbits (*Lepus townsendii*), kangaroo rats (*Dipodomys ingens*), kit fox (*Vulpes macrotis*), and muskrats (*Ondatra zibethicus*). Birds include waterfowl, hawks, golden eagles (*Aquila chrysaetos*), owls, white-tailed kites (*Elanus leucurus*), herons, western meadowlark (*Sturnella neglecta*) and California quail (*Callipepla californica*).³

¹ General Plan Background Report, page 1-2

² Appendix C, page 4

³ Ibid. Page 9-10

REGULATORY SETTING

Federal Agencies & Regulations

See Chapters 3.4 and 3.5 of this document for federal regulations related to biological and cultural resources, respectively.

State Agencies & Regulations

See Chapters 3.4 and 3.5 of this document for state regulations related to biological and cultural resources, respectively.

Local Policy & Regulations

See Chapters 3.4 and 3.5 of this document for local regulations related to biological and cultural resources, respectively.

IMPACT EVALUATION

Will the project:

- a) **Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Findings, Impacts to Biological Resources

Project Impact Analysis:

Less than Significant Impact with Mitigation

Chapter 3.4, Biological Resources, addresses potential impacts to biological resources. Two biological analyses were conducted by two firms, the Environmental Resources Management (ERM), and Garcia and Associates (GANDA), involving the proposed Project site. The evaluations in their entirety can be found in Appendix C. The biological analyses conclude that there were no special-status species observed on the proposed Project site during multiple site assessments. However, based on the geographic condition of the proposed Project site, there is potential for the San Joaquin kit fox, burrowing owl, and other native nesting birds to occur on the site that may be impacted by the proposed Project activities. Additionally, there is one area that appears to have wetland features along the south side of the secondary fiber optic route, which could be impacted land and potentially affect wildlife habitat. Therefore, it is determined that impacts on biological resources due to the proposed Project are potentially significant. Implementation of the Mitigation Measures outlined in Chapter 3.4, Biological Resources, will reduce any impacts to less than significant:

Cumulative Impact Analysis: ***Less than Significant Impact with Mitigations***

The geographic area of this cumulative analysis is the San Joaquin Valley, the State of California, and the Western United States. As noted in Chapter 3.4, there will be less than significant cumulative impacts related to biological resources with the implementation of mitigation measures.

Conclusion: ***Less than Significant Impact with Mitigations***

Less than significant impacts to biological resources would result from the proposed Project with the implementation of Mitigation Measures included in Chapter 3.4, Biological Resources.

Findings, Impacts to Cultural Resources

Project Impact Analysis: ***Less than Significant Impact with Mitigation***

Chapter 3.5, Cultural Resources, discusses impacts to historic or prehistoric resources in greater detail. One cultural resource was identified within ½ mile of the Tulare Solar Center site by the Southern San Joaquin Valley Information Center and four cultural resources were discovered and documented on the proposed Project site. Mitigation Measures 3.5-1 and 3.5-2 are included to address the potential of cultural resources being unearthed as a result of Project-related ground excavation activities. In addition, Mitigation Measures were added in the unlikely event that human remains are unearthed during Project-related ground excavation. Implementation of these Mitigation Measures, as detailed in Chapter 3.5, Cultural Resources, would reduce any significant impacts to less than significant.

Cumulative Impact Analysis: ***Less than Significant Impact with Mitigation***

The geographic area of this cumulative analysis is Tulare County. The proposed Project would only contribute to cumulative impacts related to this checklist item if proposed Project specific impacts were to occur. As the proposed Project would be mitigated to a less than significant level, cumulative impacts will also be less than significant with the Mitigation Measures specified in Chapter 3.5, Cultural Resources.

Conclusion: ***Less than Significant Impact with Mitigation***

With implementation of the Mitigation Measures outlined in Chapter 3.5, Cultural Resources, potential Project specifics and cumulative impacts related to this checklist item will be reduced to a less than significant level.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Cumulative Analysis: *See Chapter 4*

“CEQA Guidelines Section 15130(a) requires that an EIR discuss the cumulative impacts of a project when the project’s incremental effect is “cumulatively considerable,” meaning that the project’s incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. A consideration of actions included as part of a cumulative impact scenario can vary by geographic extent, time frame, and scale. They are defined according to environmental resource issue and the specific significance level associated with potential impacts. CEQA Guidelines 15130(b) requires that discussions of cumulative impacts reflect the severity of the impacts and their likelihood of occurrence. The CEQA Guidelines note that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts and should be guided by the standards of practicality and reasonableness and focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impacts.”⁴

Cumulative impacts for biological and cultural resources are discussed within Chapters 3.4 and 3.5, respectively.

Conclusion for Cumulative Impacts to Biological Resources (Chapter 3.4): *Less than Significant Impact with Mitigation*

With the implementation of Mitigation Measures of 3.4-1 through 3.4-21, potential Project specifics and cumulative impacts related to this checklist item will be reduced a less than significant level. Additional detail is included in Chapter 3.4.

Conclusion for Cumulative Impacts to Cultural Resources (Chapter 3.5): *Less than Significant Impact with Mitigation*

With implementation of Mitigation Measures 3.5-1 and 3.5-2, potential Project specifics and cumulative impacts related to this checklist item will be reduced to a less than significant level. Additional detail is included in Chapter 3.5.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Project Impact Analysis: *Less than Significant Impact with Mitigation*

⁴ Tulare County 2030 General Plan RDEIR, pages 5-3 to 5-4
Chapter 3.18: Mandatory Findings of Significance

The proposed Project will result in potential impacts to Air Quality, Greenhouse Gas Emissions, Noise, and Public Services which could adversely affect human beings. However, the implementation of Mitigation Measures 3.3-1 (Air Quality), 3.7-1 (Greenhouse Gas Emissions), 3.12-1(Noise), and Mitigation Measures 3.14-1 through 3.14-4 (Public Services) will reduce the proposed Project's potential impacts to a less than significant level.

The nearest sensitive receptors to the Project site are a few scattered rural residences located near the intersection of State Highway 65 and Avenue 24, as well as residences near the intersection of State Route 65 and Avenue 16. Figure 3.3-1 (Chapter 3.3), identifies potential sensitive receptors nearest to the proposed Project site. Additionally, Figure 3.3-2 (Chapter 3.3), identifies the nearest businesses, fire stations, and schools outside of a 2 mile buffer area from the Project site boundary.

As described in Chapter 3.3 Air Quality and Chapter 3.7 Greenhouse Gas Emissions, construction phase of the proposed Project is anticipated to exceed the Air District's threshold of significance for NO_x and PM₁₀ levels. Site excavation and construction grading activities are identified as the primary source of pollutant emissions of which impacts are determined to be significant and unavoidable during construction phase. Chapter 3.3 and Chapter 3.7 contain implementation Mitigation Measures 3.3-1 and 3.7-1 in order to reduce pollutant emission impacts associated with construction activities.

Mitigation Measures 3.3-1 and 3.7-1 both state that construction fleets shall achieve exhaust emission reductions through the prioritized use of newer, cleaner burning equipment during construction-related activities. The utilization of cleaner burning equipment shall be documented by the construction team on the Air District's prescribed detailed fleet form for the Project duration. Exhaust emission reduction calculations after project build-out shall be based on the actual usage of construction equipment from the detailed fleet records.

The Project's construction-related phase is anticipated to occur over the course of approximately 12 months. Off-site construction-related emissions will be generated from the delivery of construction materials (heavy duty trucks) and construction worker trips. The proposed Project is estimated to generate approximately 90 delivery and vendor trips and an average of 195 worker trips on a daily basis during the construction phase. On-site construction-related emissions will be generated by mobile and stationary sources and equipment used for site preparation, foundations, installation of the PV modules, construction of transmission system interconnection facilities, and paving. The proposed Project's construction-related phase will generate diesel exhaust from construction equipment and activities entering and exiting the construction site which may generate odors in the open-air environment.

Construction-related emissions are short-term and temporary and are not anticipated to affect a substantial amount of adjacent receptors. Furthermore, the more extensive construction-related activities will occur within the proposed Project site therefore reducing diesel combustion odors from emitting toward adjacent receptors.

As noted in Chapter 3.12, Noise, Construction activities will typically occur between eight to ten hours per day, for five to six days per week. The proposed Project will generate a majority of the construction-related noise via vehicular traffic and other construction-related activities. Construction-related activities are anticipated to generate maximum noise levels, as indicated in Table 3.12-2 in Chapter 3.12, from 79 to 91 dBA at a distance of 50 feet from the source, without feasible noise control (e.g., mufflers) and range from 75 to 80 dBA at a distance of 50 feet from the source, with feasible noise control. Chapter 3.12, identifies Mitigation Measure 3.12-1, which confines construction equipment usage between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. Construction outside of these hours shall require written approval by the Planning Director. In addition, noise-reducing mufflers or other sound absorbing material shall be retro-fitted to gas and diesel-powered equipment, when applicable.

Chapter 3.14 Public Services, identifies Fire Protection Services as a governmental facility potentially affected by the proposed Project. The proposed Project will be served by the Tulare County Fire Department. The County of Tulare Fire Department has 28 stations that are located throughout the County within its most densely populated areas and currently maintains minimal staffing to meet the requirements set forth under NFPA 1720-1721 for a rural area.

The Richgrove Fire Station, which is the nearest to the Project site and thus would serve the Project. Project specific impacts related to this checklist item will potentially occur, as the proposed Project implementation will increase the service area for the Richgrove Fire Station. However, Chapter 3.14 includes Mitigation Measures 3.14-1 through 3.14-4 ranging from on-site emergency accessibility up to fire code compliance. Project specifics are anticipated to be less than significant with Mitigation Measures incorporated.

Cumulative Impact Analysis: ***Less than Significant with Mitigation***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR. With the described Mitigation Measures, Project specific implementations related to this check list item will be reduced to a level considered to less than significant

Mitigation Measures:

See the Following Chapters: 3.3 Air Quality, 3.7 Greenhouse Gas Emissions, 3.12 Noise, and 3.14 Public Services

Conclusion: ***Less than Significant with Mitigation***

The proposed Project, a photovoltaic facility, at complete build-out is anticipated to have substantial adverse effects on human beings. However, possible Project construction-related

activities will directly impact Air Quality, Greenhouse Gas Emission, Noise, and Public Services. Impacts associated with the Project's construction phase will be reduced to a less than significant level with the implementation of the described Mitigation Measures included in Chapters 3.7 Greenhouse Gas Emissions, 3.12 Noise, and 3.14 Public Services although constructional NOx emissions will remain unavoidable and significant. The proposed Project is anticipated to impact sensitive receptors during peak construction-related activities. While construction-related impacts are anticipated to be short-term and temporary, Mitigation Measures are included to reduce any substantial adverse effects on human beings either directly or indirectly as a result of Project implementation. The proposed Project, as conditioned, will not cause substantial adverse effects on human beings either directly or indirectly. Project specifics related to this checklist item are less than significant.

Summary of Cumulative Impacts

Chapter 4

CUMULATIVE IMPACTS ANALYSIS UNDER CEQA

Section 15355 Cumulative Impacts

“Cumulative impacts” refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- (a) The individual effects may be changes resulting from a single project or a number of separate projects.
- (b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.”

Section 15130 Discussion of Cumulative Impacts

“An EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable, as defined in section 15065 (a)(3). Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

- (1) As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.
- (2) When the combined cumulative impact associated with the project’s incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency’s conclusion that the cumulative impact is less than significant.
- (3) An EIR may determine that a project’s contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project’s contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.”

“The discussion of cumulative impacts shall reflect the severity of the impacts and their

likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary to an adequate discussion of significant cumulative impacts:

- (1) Either:
 - (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
 - (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.
- (2) When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.
- (3) Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.
- (4) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and
- (5) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects."

"With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis."

Previously approved land use documents, including, but not limited to, general plans, specific plans, regional transportation plans, plans for the reduction of greenhouse gas emissions, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts

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analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f), in a certified EIR for that plan.”

“If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in Section 15183(j).”

PAST, PRESENT, PROBABLE FUTURE PROJECTS

TCAG Blueprint Scenario

Under the Tulare County Regional Blueprint Preferred Growth Scenario, TCAG suggested a 25% increase over the status quo scenario, to overall density by 2050. The preferred growth scenario principles included directing growth towards incorporated cities and communities where urban development exists and where comprehensive services and infrastructure are / or will be provided. Another relevant preferred scenario is the creation of urban separators around cities. The project location is outside incorporated areas and would be consistent with the goal of separating urban boundaries.¹

Tulare County General Plan Update 2030

The Cumulative Analysis outlined in the Tulare County General Plan Update 2030 Recirculated Draft EIR notes regional population growth (which impact was developed by the Tulare County Association of Governments) and a number major projects. Regional population projections are provided in the Table 4.

**Table 4-1
Regional Population Projections and Planning Efforts²**

Jurisdiction	General Plan Planning Timeframe	General Plan Buildout Population	Significant Environmental Impacts
City of Dinuba	2006-2026	33,750	Farmland conversion; conflicts with agricultural zoning and Williamson Act contracts; conversion of agricultural soils to non-agricultural use; regional air quality impacts; and climate change-greenhouse gases.
City of Woodlake			Unavailable.
City of Visalia	1991-2020	165,000	Air quality; biological resources; land use conflicts; noise; transportation/traffic; mass transit; agricultural resources; water supply; and visual resources.
City of Tulare	2007-2030	134,910	Farmland conversion; aesthetics; water supply; traffic; air quality; global climate change; noise; flooding from levee or dam failure; biological resources; and cultural resources.

¹ TGAG Blueprint 2050, Preferred Scenario (2009)

² Tulare County General Plan 2030 Update Recirculated Draft EIR, page 5-4 to 5-5

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City of Farmersville	2002-2025	12,160	Agricultural resources; agricultural land use conflicts; air quality; and traffic circulation.
City of Exeter			Information unavailable at time of analysis.
City of Lindsay	1990-2010	17,500	Air quality and farmland land conversion.
City of Porterville	2006-2030	107,300	Farmland conversion; air quality; noise; and biological resources.
City of Kingsburg	1992-2012	16,740	Farmland conversion and air quality.
City of Delano	2005-2020	62,850	Air quality; noise; farmland conversion; disruption of agricultural production; and conversion of agricultural soils to non-agricultural use.
County of Fresno	2000-2020	1,113,790	Farmland conversion; reduction in agricultural production; cancellation of Williamson Act Contracts; traffic; transit; bicycle facilities; wastewater treatment facilities; storm drainage facilities; flooding; police protection; fire protection; emergency response services; park and recreation facilities; library services; public services; unidentified cultural resources; water supply; groundwater; water quality; biological resources; mineral resources; air quality; hazardous materials; noise; and visual quality.
County of Kern	2004-2020	1,142,000	Air quality; biological resources; noise; farmland conversion; and traffic.
County of Kings*	1993-2005	149,100 (low) 228,000 (high)	Biological resources; wildlife movement; and special status species.

* The adopted Kings County General Plan did not identify a projected population for 2005. The General Plan does include population projections for 2010, which is included in this table.

SOURCE: City of Delano, 1999; City of Dinuba, 2008; City of Farmersville, 2003; City of Kingsburg, 1992; City of Lindsay, 1989; City of Porterville, 2007; City of Visalia, 2001, 1991; County of Fresno, 2000; County of Kern, 2004; County of Kings, 2009; DOF, 2007; TCAG, 2008.

In addition to the Regional Growth Projections used for the cumulative impact analysis, the Tulare County General Plan Update 2030 Recirculated Draft EIR outlines the following Major Projects in progress or as probable future projects:

- **Goshen:** Status – GPI allowed to proceed. On March 29, 2006, the Tulare County Resource Management Agency convened a meeting with 30 property owners, land developers, services providers, and their representatives, having a development interest in Goshen. The purpose of the meeting was to “...discuss the potential for joint cooperation amongst the various developers and property owners to achieve a well planned community and to foster the spirit of cooperation” towards completion of the Community Plan update and EIR. The proposed planning study area boundary would add approximately 3,277 acres to the existing Goshen UDB, as opposed to the Draft Goshen Community Plan UDB which adds 422 acres using a needs-based analysis patterned on historical growth trends extrapolated 20 years into the future. The revised boundary incorporates the GPI applicants’ lands, the hamlet of West Goshen, and additional land to be held in reserve for future growth. The applicant’s land excluding Mangano’s “Westfield” totals 661 acres. The area is bounded in the north by Avenues 320 and 312, taking in West Goshen; in the west by Roads 52 and 56; in the south by State Hwy. 198; and in the east by Camp Road and Road 76 at the City of Visalia Sphere of Influence. This ‘study’ area will be the focus of technical analysis that will set a proposed Urban Development Boundary in which build-out will be contemplated for preparation of the new Goshen Community Plan, EIR and

Infrastructure Master Plan. Since the study area involves lands not owned or controlled by the developers, the MOU agreement to be negotiated will contain a provision to reimburse the developers for expenses incurred when development authorized by the new plan occurs.

- **Yokohl Ranch:** Status – GPI allowed to proceed in February 2007. On September 13, 2005, the Tulare County Resource Management Agency received a request from the J.G. Boswell Company and the Eastlake Company, to initiate the formal process to amend the Tulare County General Plan, including the Foothill Growth Management Plan (FGMP), to change the land use designation for the 36,000 acre Yokohl Ranch property from ‘Extensive Agriculture’ to ‘Planned Community Area’. According to the applicants, the proposed amendment will result in master planned communities that balance the needs for housing, neighborhood commercial uses, recreation, ranching operations and open space. As such, 40% (14,400 acres) of the ranch is proposed for development with 60% (21,600 acres) of the property to remain as untouched open space and ranchlands. The developed portions of the ranch will include the Village of Yokohl Ranch, an active adult community accessible to Yokohl Drive; and a Ranch Resort Lodge Enclave located in the northern reaches of the site, approximately four miles south of Lake Kaweah.
- **Rancho Sierra:** Status – GPA approved. The project site consists of 114.6 acres. The site was a golf course facility located on both sides of Liberty Avenue (Avenue 264), east of Road 124, south of the city of Visalia. There are 30 existing homes within the golf course area but not a part of this application. The intended use is to subdivide the site into 175 single family residential lots. The project has been approved.
- **Earlimart:** Status – GPI allowed to proceed January 2006. On September 9, 2005, the Tulare County Resource Management Agency received a request from the Earlimart Development Group, a land development partnership comprised of four business owners with interests in 1,491 acres of private property located both within and outside of the existing Earlimart Urban Development Boundary. The Group is seeking authorization to file an amendment to the Tulare County General Plan, specifically the Earlimart Community Plan (1988). In addition to an updated Community Plan, an Infrastructure Master Plan and Program EIR for the update will also be prepared. The applicants proposed that a 7,680 acre planning study area be established. The area is bounded in the north by Avenue 68 (Deer Creek as a natural boundary), in the south by Avenue 36 (White River as a natural boundary), in the east by Road 144, and in the west by Road 120. This ‘study’ area will be the focus of technical analysis that will set the proposed Community Plan boundary for which the new Community Plan, EIR and Infrastructure Master Plan will be prepared. Since the study area involves lands not owned or controlled by the Development Group, the MOU agreement to be negotiated will contain a provision to reimburse the Development Group for expenses when development authorized by the new plan occurs. The Earlimart Development Group has indicated that they have contracts with the consulting firms of Hogle-Ireland, Inc., Provost & Pritchard Engineering Group, Inc. and TPG Consulting or other environmental consulting firm, to

prepare the General Plan amendment. However, it is important that preparation of the EIR be managed by the County as Lead Agency for the project.

In addition to the County's Major Projects summarized above and as outlined in the County General Plan Update 2030 Recirculated Draft EIR, there are a number of other projects that may produce cumulative impacts. These projects are briefly described below.

- **Pena** – proposed project is for Peña's Material Recovery Facility (MRF) and Transfer Station (TS)' which currently sits on 18.01 acres that are being rezoned from AE 30 to M1 Light Industrial Zoning, and rezoning 6.7 acres and 11.3 acres from residential and industrial reserve zoning to industrial zoning. The land is currently operated by Peña's Disposal, Inc. and has a previously permitted peak processing capacity of 500 tons per day (TPD). This existing facility serves the unincorporated northern portions of Tulare County and the unincorporated southern portions of Fresno County, and the City of Orange Cove in Fresno County. Within the County of Tulare, the facility serves the cities of Dinuba and Porterville, the communities of Cutler, Orosi, London, Sultana, Traver, Seville and other smaller communities in the area that may need to utilize the facility for the recycling of source-separated recyclables, commingled recyclables, commercial and industrial rubbish, green material and wood wastes, construction and demolition wastes, and inert debris to assist in reaching the diversion goals of the California Integrated Waste Management Act of 1989 (AB 939).
- **Harvest Power** –The proposed Project is located on 35 acres near Road 140 between Avenues 248 and 240 in Tulare County. The composting facility is operating with special use permit number (PSP 99-026(ZA)) to compost green material, food, and dairy manure. There are two APNs for this facility which includes 150-14-004 and 150-16-004. The Project site is zoned AE-40 (Exclusive Agriculture, 40 acre minimum). The General Plan designation is Rural Valley Land Plan (RVLP). The Project consists of the expansion of the composting facility which has been operational since 1996. The Project site is surrounded by agricultural uses, dairy farms and vineyards.

The proposed Project includes three main components:

- Expansion of materials accepted at the composting operations;
- Construction of an anaerobic bio-digester to produce natural gas (biogas); and,
- A compressed natural gas (CNG) fueling station and combined heat and cooling unit (CHP) exchange unit.

The proposed Project includes expanding the amount of material at the site not to exceed a limit of 216,000 TPY. The material to be processed will consist of 156,000 TPY of combined green and food materials and 60,000 TPY of manure.

- **Pixley Biogas** - The proposed project is for development of a biogas facility on 2.75 acre portion of an 8 acre parcel. The digester will extract methane gas, via an anaerobic manure digester. The facility will be used to produce 266 MMBTUS per day of biogas

via an anaerobic digestion of manure feedstock from nearby dairies. The biogas produced will be used to fuel the Calgren bio-refinery facility, located adjacent and to the south of the project site, which will reduce the Calgren plant consumption of natural gas.

- **South County Correctional Detention Facility in Porterville** - The proposed Project will require a rezoning of the project site, which is half in the County and half in the City of Porterville. The proposed project contains a build-out “footprint” for the proposed facility of approximately 15.0 acres with a new maximum security Type II facility as the primary structure. The proposed Project will consist of 250-cell double occupancy units (500 beds) and 14 special use beds for a total of 514 beds. In addition to the main detention facility, the proposed Project will also include support service components.

As the site is currently under agricultural production, the proposed Project will require new utilities infrastructure (such as electrical, gas, phone, etc.). It will also require streets/roads improvements, potable water systems, wastewater systems, and storm water drainage infrastructure. These will be constructed or expanded to meet facility demands. Where feasible, the Project will be extended to connect with existing potable water, wastewater, and storm water drainage infrastructure provided by City of Porterville. However, possible new construction of the above mentioned infrastructure may be necessary, and as such, will be evaluated.

SUMMARY OF CUMULATIVE IMPACTS

In this summary section, mitigated impacts and immitigable impacts will be discussed. Checklist item criteria that would result in no impacts or less than significant impacts are discussed in the previous chapter and are not reiterated.

Unavoidable Cumulative Impacts

Two potentially significant and unavoidable cumulative impacts were identified for the proposed Project.

**Table 4-2
Checklist Items with Significant Unavoidable Impacts**

Impact Section	Checklist Item #	Checklist Criteria
Agriculture and Forestry	3.2 a) & 3.2 e)	a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural uses? e) Involve other changes in the existing environment which, due to their location or nature, could result n conversion of Farmland, non-agricultural use or conversion of agricultural use or conversion of forest land to non-forest use.
Air Quality	3.3 a) & 3.3 b)	a) Conflict with or obstruct implementation of an applicable air quality plan. b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

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Although, these two impacts may be significant, both are temporary in nature, as discussed below.

This EIR has identified that the proposed Project could have the potential to convert Farmland of Local Importance to non-agricultural use; however, the potential conversion will be limited for two reasons: 1) the proposed Project will not introduce a nonagricultural use that is sensitive to or incompatible with agricultural operations that will occur nearby; and 2) at the end of its operating life, infrastructure associated with the solar facility will be removed, which will allow the proposed Solar Facility to return to agricultural use, via a reclamation plan which will be a condition of approval.

Short-term, temporary, construction related emissions are expected to exceed the CEQA significance threshold of 10 tons per year established by the SJVAPCD for Nitrogen Oxide (NO_x).

The District ISR requirements under Rule 9510 require construction vehicle exhaust emissions to be mitigated by 20% for NO_x as compared to the California Air Resource Board (CARB) state-wide averages. The mitigation measure recommended by the District is the adoption of a “Clean Fleet” to achieve the required NO_x reductions. These mitigation measures would reduce emissions by the required percentages prescribed under the ISR program.

However, these mitigation measures are specific to the requirements of the ISR process and would not reduce NO_x emissions below the CEQA threshold of significance of 10 tons per year. Therefore, short-term construction emissions could create a significant impact. It should be noted that construction emissions by their very nature are temporary and impacts would only occur during peak construction periods.

Further the proposed Project provides other environmental benefits.

The proposed Project contributes to the attainment of State legislation established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107 and expanded in 2011 under Senate Bill 2, California's Renewables Portfolio Standard (RPS). This is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources (e.g. solar) to 33% of total procurement by 2020.³

The California Global Warming Solutions Act of 2006 (AB 32) requires that the California Air Resources Board determine the statewide greenhouse gas emissions level in 1990. The act also requires that the Board approve a statewide greenhouse gas emissions limit, equal to that level, be achieved by 2020.⁴ The power industry, along with all other industries and public and private development projects are collectively subject to these requirements and collectively further the attainment of these mandated reductions.

³California Public Utilities Commission, California Renewables Portfolio Standards <http://www.cpuc.ca.gov/PUC/energy/Renewables/>

⁴ California Environmental Protection Agency, Air Resource Board, <http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>

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Less than Significant Impacts with Mitigation

**Table 4-3
Checklist Items with Less than Significant Impact with Mitigation**

Impact Section	Checklist Item #	Checklist Criteria
Aesthetics	3.1 b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
Aesthetics	3.1 d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?
Biological	3.4.a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California department of Fish and Wildlife or the U. S. Fish and Wildlife Services?
Biological	3.4 c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
Cultural Resources	3.5 a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?
Cultural Resources	3.5 b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?
Cultural Resources	3.5 c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
Cultural Resources	3.5 d)	Disturb any human remains, including those interred outside of formal cemeteries?
Greenhouse Gas Emissions	3.7 a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
Hydrology	3.9 a)	Violate any water quality standards or waste discharge requirements?
Noise	3.12 a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
Public Services	3.14 a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives of any of the public service: <ul style="list-style-type: none"> • Fire protection?
Utilities	3.17 c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Mandatory	3.18 b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Please see Chapter 8 for a list of mitigation measures to be implemented as part of the proposed Project.

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Less than Significant Impacts

**Table 4-4
Checklist Items with Less than Significant Impacts**

Impact Section	Checklist Item #	Checklist Criteria
Agricultural & Forestry	3.2 b)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of agricultural use or conversion of forest land to non-forest use?
Biological	3.4 d)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
Geology	3.6 a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction?
Geology	3.6 b)	Result in substantial soil erosion or the loss of topsoil?
Geology	3.6 c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
Geology	3.6 e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?
Hazards	3.8a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Hydrology	3.9 b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
Hydrology	3.9 e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?
Hydrology	3.9 h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
Land Use	3.10 b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
Land Use	3.10 c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?
Noise	3.12 b)	Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?
Noise	3.12 c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

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Impact Section	Checklist Item #	Checklist Criteria
Noise	3.12 d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
Traffic	3.16 a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
Traffic	3.16 b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
Utilities	3.17 d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
Mandatory	3.18 a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?
Mandatory	3.18 c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

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No Impacts

**Table 4-5
Checklist Items with No Impacts**

Impact Section	Checklist Item #	Checklist Criteria
Agricultural & Forestry	3.2 c)	Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code § 12220(q), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?
Agricultural & Forestry	3.2 d)	Result in the loss of forest land or conversion of forest land to non-forest use?
Biological	3.4 b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?
Biological	3.4 e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
Biological	3.4 f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
Geology	3.6 d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
Hazards	3.8 b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
Hazards	3.8 c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
Hazards	3.8 d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
Hazards	3.8 e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
Hazards	3.8 f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
Hazards	3.8 g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
Hazards	3.8 h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
Hydrology	3.9 c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
Hydrology	3.9 d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

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Impact Section	Checklist Item #	Checklist Criteria
Hydrology	3.9 f)	Otherwise substantially degrade water quality?
Hydrology	3.9 g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
Hydrology	3.9 i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
Hydrology	3.9 j)	Inundation by seiche, tsunami, or mudflow?
Land Use	3.10 a)	Physically divide an established community?
Mineral Resources	3.11 a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
Mineral Resources	3.11 b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?
Noise	3.12 e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
Noise	3.12 f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
Public Services	3.14 a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
Public Services	3.14 a)	Police protection?
Public Services	3.14 a)	Schools?
Public Services	3.14 a)	Parks?
Public Services	3.14 a)	Libraries?
Public Services	3.14 a)	Other public facilities? None identified
Recreation	3.15 a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
Recreation	3.15 b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
Traffic	3.16 c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
Traffic	3.16 d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
Traffic	3.16 e)	Result in inadequate emergency access?
Traffic	3.16 f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
Utilities	3.17 a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

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Impact Section	Checklist Item #	Checklist Criteria
Utilities	3.17 b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Utilities	3.17 e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
Utilities	3.17 f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
Utilities	3.17 g)	Comply with federal, state, and local statutes and regulations related to solid waste?

REFERENCES

Association of Environmental Professionals 2012 CEQA Guidelines

TGAG Blueprint 2050, Preferred Scenario (2009)

Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162).

California Public Utilities Commission, California Renewables Portfolio Standards,
<http://www.cpuc.ca.gov/PUC/energy/Renewables/>

California Environmental Protection Agency, Air Resource Board,
<http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>

ALTERNATIVES

Chapter 5

INTRODUCTION

CEQA Guidelines §15126.6 require that a reasonable range of alternatives to the proposed Project be discussed in the EIR. Specific requirements include the following:

- CEQA Guidelines §15126.6(a): Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the 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. The Lead Agency is responsible for selecting a range of alternatives for examination and must publicly disclose its reasoning for selecting those alternatives.
- CEQA Guidelines §15126.6(b): Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- CEQA Guidelines §15126.6(c): Selection of a range of reasonable alternatives. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects.
- CEQA Guidelines §15126.6(d): Evaluation of alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project.
- CEQA Guidelines §15126.6(e): “No project” alternative. The specific alternative of “no project” shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.
- CEQA Guidelines §15126.6(f): Rule of reason. The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.

Established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107 and expanded in 2011 under Senate Bill 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources (i.e., solar) to 33% of total procurement by 2020.¹

¹ California Public Utilities Commission, California Renewables Portfolio Standards <http://www.cpuc.ca.gov/PUC/energy/Renewables/>

The California Global Warming Solutions Act of 2006 (AB 32) requires that the California Air Resources Board determine the statewide greenhouse gas emissions level in 1990. The act also requires that the Board approve a statewide greenhouse gas emissions limit, equal to that level, be achieved by 2020.² The power industry, along with all other industries and public and private development projects are collectively subject to these requirements.

The Alternatives Analysis which follows evaluates a reasonable range of alternatives to the proposed Project in light of the requirements summarized above.

FACTORS CONSIDERED IN ANALYSIS OF ALTERNATIVES

In this Alternatives analysis the following evaluation criteria will be used:

Evaluation Criteria 1: Project Specific Elements

The proposed Project requires approximately 800 acres of leasable land proximate to the SCE transmission grid and capable of supporting a 80 MW solar PV electricity generating facility and free of any title restrictions that would preclude reclamation of the land to its pre-project state. The proposed Project will consist of the following essential components:

On-site Components: The proposed Project will include Photovoltaic (PV) modules, inverters, intermediate transformers, perimeter fencing with access gates, roadways, a control-equipment enclosure/operations and maintenance building, underground electrical wiring, overhead power lines, substations, a switchyard, and subtransmission utility poles.

Off-site Project Components: The proposed Project will require Southern California Edison Company (SCE) to upgrade an existing subtransmission line, and to install new communications lines (fiber optic cables), on the same subtransmission pole-lines as well as along a new secondary route. The Project has also proposed alternative routes for an overhead power line (a Project generation tie-line) on adjacent properties. These improvements enable electrical interconnection of Project facilities with SCE's electrical system.

Evaluation Criteria 2: Project Objectives

- Provide up to 80 MW of renewable power
- Provide low-emission, solar powered renewable energy to the California Grid to assist with meeting local energy demands while minimizing impacts to the surrounding community, yet consistent with the County's Climate Action Plan, State Renewable Portfolio Standard, and Assembly Bill (AB) 32 mandates.

Evaluation Criteria 3: Operational Efficiency

As the proposed Project involves the construction and operation of a solar energy generation facility, operational efficiency is a major concern in the long-term viability of the facility. Operational efficiency affects both operational costs and operational effectiveness through the maximization of equipment use.

²California Environmental Protection Agency, Air Resource Board, <http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>

Evaluation Criteria 4: Lessen Significant Impacts

According to CEQA, a valid Project alternative should be capable of meeting most of the Project objectives *and* lessening potential significant impacts associated with the Project. Reasonable alternatives are those that may reduce the extent and magnitude of Project, site, and cumulative significant impacts.

Evaluation Criteria 5: Physical Feasibility (Land Size and Configuration Constraints)

Physical feasibility is required because if a site for a particular alternative is too small or if the components of the proposed Project cannot be configured on the site, then the alternative would not be feasible and should be eliminated from review.

ALTERNATIVES ANALYSIS

Alternative 1: No Project

Compared to the proposed Project, the No Project Alternative would avoid all potential construction-related impacts, particularly to agricultural conversion and air quality because the solar PV electrical generating facilities would not be constructed. From an operational standpoint, the No Project Alternative will avoid any impacts to the environment, particularly those impacts associated with biological and visual resources because no changes in current agricultural operations or location would occur.

The No Project (No Build) Alternative is theoretically feasible; however, it would fail to meet any of the Project objectives. Further, while this Alternative may lessen certain site specific environmental impacts as noted, it would also reduce the State of California's ability to achieve a number of other broader legislative environmental goals as well. Not constructing this alternative energy source project could, in the broader state-wide context, result in greater environmental impacts overall or in the cumulative analysis. In this case, without the proposed Project, there would be a continuing escalation of impacts on the environment related to ongoing increases in demand for and use of fossil fuels for energy, and thereby, greater impacts to air quality from greenhouse gases and associated secondary health effects to human, plant and animal life.

Alternative 2: Alternative Site

Alternative Site No. 1, a 1,262-acre site, is shown on Figures 5-1 and 5-2. Alternative Site No. 1 is deemed to be a valid site for alternatives assessment from the standpoint that it meets all of the Project Objectives defined in Chapter 2 and the Evaluation Criteria described earlier. These parameters are analyzed below.

- 1.) The site is approximately of similar size to the proposed Project. Therefore, Alternative Site No. 1 has the potential to support a project with a similar capacity and power output, operational efficiency and ability to meet Project objectives as those by the proposed Project

- 2.) The alternative location lies within Exclusive Agricultural Zoning (20 and 40-acre minimum parcel size) and is proximate to SCE's existing subtransmission line and Vestal Substation. As such, the alternative appears reasonable since the zoning and locational characteristics of Alternative Site No. 1 are similar to the proposed Project.

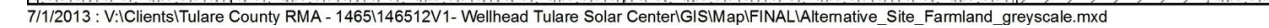
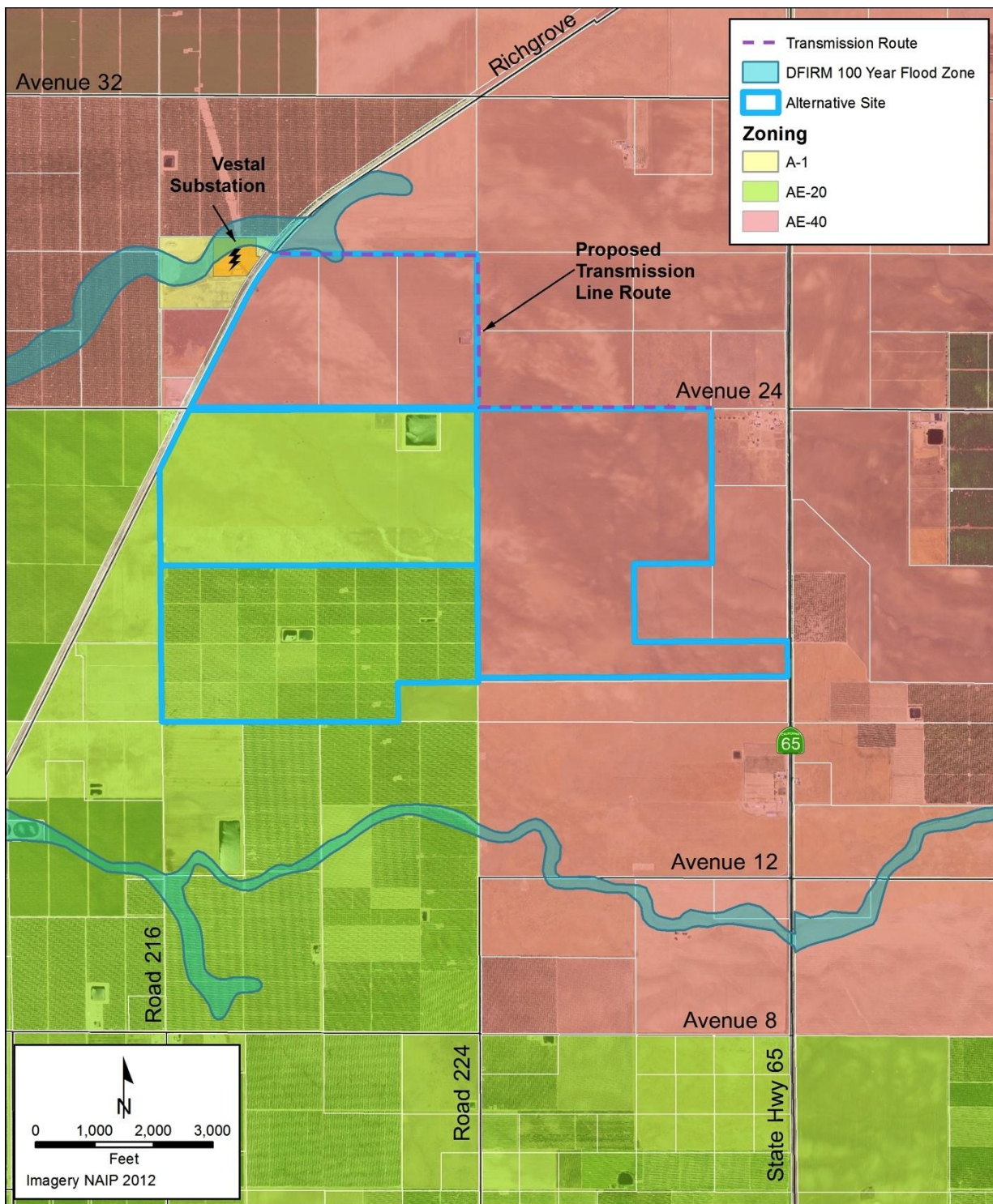


Figure 5-2
Alternative 2: Alternative Site Zoning and Flood Zone Map



5/29/2013 : V:\Clients\Tulare County RMA - 1465\146512V1- Wellhead Tulare Solar Center\GIS\Map\Alternative_Site_Zoning_and_FEMA.mxd

Alternative 3: Reduced Scale of Project

This alternative would involve a reduction in the size of the Project site, and/or the MW output of the proposed Project as a means to minimize, reduce, or avoid the potentially significant impacts.

The Reduced Scale Alternative considers a solar generation facility encompassing up to 400 acres, rather than 800 acres, of the same 1,144 acre site, i.e., a 50% decrease in acreage used by the Project. The off-site Project components would be equal to those for the proposed Project, while the individual quantities of on-site components would generally be reduced by approximately 50%, except that certain items (e.g. substation, switchyard, and control-equipment enclosure or O&M building) would remain materially unchanged. The Reduced Scale Alternative would meet the Project objectives of assisting in the implementation of AB 32 and the County's Climate Action Plan, but potentially at a lesser contribution than the proposed Project. Similar to the proposed Project, it would minimize environmental impacts by locating the facility in a remote rural setting near existing electrical system facilities. Other than not meeting the Project objective of producing 80 MW of renewable energy, this alternative is feasible.

Alternative 4: Alternate Configuration

This Alternative would reconfigure the site layout of the proposed Project. This Alternative would be useful if there were finite areas of biological sensitivity or other areas needing to be avoided in order to specifically mitigate or minimize, reduce, or avoid environmental impacts. However, the potentially significant impacts identified in this DEIR are not related to site layout. Since the environmental review explored the potential for on-site impacts on all 1,144 acres, and recognizing that the proposed Project would utilize no more than 800 acres, the proposed Project already incorporates flexibility to utilize an alternative configuration, and does not need to be considered in this Alternatives Analysis.

Alternative 5: Alternative Energy Generation Technologies

Solar photovoltaic technology is considered an alternative to the more fundamental or common electromechanical power technology for generation of electricity. Electricity is generated at most electric power plants by using mechanical energy to rotate the shaft of electromechanical generators. The mechanical energy needed to rotate the generator shaft can be produced from the conversion of chemical energy by burning fuels.³ But there are also other alternative technologies to solar PV that are available for generating electric power:

- Kinetic (flowing wind and water)
- Geothermal
- Biomass

³ Environmental Protection Agency, Office of Air and Radiation. 2010. Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Coal-Fired Electric Generating Units. October 2010. Accessed May, 2013.
<http://www.epa.gov/nsr/ghgdocs/electricgeneration.pdf>

However, the Project proponent is not in the business of generating electricity via kinetic, geothermal, or biomass based technologies.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6 (e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives.

Alternative 1, the No Project Alternative would avoid all potential construction-related impacts to agricultural conversion and air quality because the solar PV electrical generating facility would not be constructed. Therefore, the No Project alternative would be the environmentally superior alternative as it would not alter the existing environment or generate impacts to air quality; nor would it create the potential impacts associated with the proposed Project on biological resources; cultural resources; greenhouse gas and climate change; geology and soils; hydrology and water quality; noise; public services and utilities; or transportation and circulation

However, pursuant to CEQA Guidelines 15126.6 (e)(2), the No Project Alternative cannot be selected as the environmentally superior alternative. Therefore, the analysis below further evaluates the remaining Alternatives in order to select the environmentally superior alternative. The relative environmental impacts associated with each of the alternatives, as compared to the proposed Project, are summarized in Table 5.1. A matrix comparing the above-stated Evaluation Criteria as they pertain to each alternative is provided in Table 5.2.

Alternative 2, the Alternate Site Alternative, could potentially meet all of the Project objectives, but it cannot be determined whether an alternative site comparable to the Project site would be available for lease. Even with the 1,262 acre alternate site, as identified in Figures 5-1 and 5-2, there is no guarantee that the property owner(s) would be willing to sell or lease their property to the Project applicant. Since this is an indeterminate variable beyond the applicant's control, Alternative 2 is being rejected as infeasible.

Although Alternative 3, the Reduced Scale of Project Alternative, would not meet all of the stated Project objectives, it would result in reducing a number of Project impacts. At the same time, it would generate an amount of renewable energy capable of being invested or sold to a public utility company, municipality, or CAISO market participants. As shown in Table 5.1, Alternative 3 would result in potential environmental impacts considered similar, or less, than the impacts of the proposed Project. Although Project related construction emissions would temporarily affect the Valley's air quality and greenhouse gas emissions, the long-term operation of the solar PV energy facility would not significantly affect the Valley's air quality. Alternative 3 would generate some level of renewable energy, thereby offsetting a portion of the County's fossil fuel usage for electricity usage/production. A scaled down Project would proportionately reduce visual appearance, and environmental impacts as compared to the proposed Project.

Alternative 4, use of an Alternate Configuration, could be a reasonable alternative should specific areas of the proposed Project area need to be physically avoided in order to mitigate, minimize, reduce or avoid environmental impacts. As previously discussed, the proposed Project has analyzed all 1,144 acres of the Project site but will use up to 800 acres, thereby effectively allowing use of this Alternative Configuration alternative. Even with the ability to utilize an Alternative Configuration, the significant impacts identified for the proposed Project are not related to site layout.

For Alternative 5, the Alternative Energy Generation Technology Alternative, other renewable energy production technologies (e.g. kinetic, geothermal, biomass) could potentially have similar or even less or greater levels of impacts (depending on the specific type of alternate energy generator) to the environment as the proposed Project. In the case of agriculture, the impacts could be anticipated to be less due to the smaller footprint (perhaps several tens or hundreds of acres versus a thousand acres) likely needed for a kinetic, geothermal or biomass energy project. Or one could argue impacts to agriculture for an alternative technology energy project could be more significant due to the permanent nature of the loss of agricultural resources. In the case of hazards/hazardous materials, the other types of renewable energy technology would likely involve more equipment, vehicles and operating activities involving petroleum and other classified hazardous materials during both construction and operation than the proposed commercial solar facility. In the case of land use, all of the other alternative technologies could be expected to result in potentially greater land use incompatibilities and conflicts with adjacent agricultural or other land uses.

Further, the Project proponent is not a business that specializes in the fields of kinetic, geothermal energy, or biomass generation. Therefore this alternative is being rejected as a feasible alternative.

Environmental impacts associated with each of the alternatives presented compared to the proposed Project can be seen in Table 5.1.

**Table 5-1
Alternatives Impact Assessment**

Impact Topic	Alt. 1 No Project	Alt. 2 Alt. Site	Alt. 3 Reduced Scale	Alt. 4 Alt. Config.	Alt. 5 Alt. Technology
Aesthetics	less	similar	less	similar	similar
Agriculture	less	similar	less	similar	less/more
Air Quality	less	similar	less	similar	similar
Biology	less	similar	similar	similar	similar
Cultural	less	similar	similar	similar	similar
Geology/Soils	less	similar	less	similar	similar
Greenhouse Gas	less	similar	less	similar	similar
Hazards & HazMat	less	similar	less	similar	more
Hydrology/WQ	less	similar	less	similar	similar
Land Use	less	similar	similar	similar	more
Mineral Resources	less	similar	similar	similar	similar
Noise	less	similar	less	similar	similar
Population/Housing	less	similar	similar	similar	similar
Public Services	less	similar	similar	similar	similar
Recreation	less	similar	similar	similar	similar
Transportation	less	similar	less	similar	similar
Utilities	less	similar	similar	similar	similar
Mandatory Findings	less	similar	less	similar	similar

A matrix of alternatives comparing the Evaluation Criteria as they pertain to each alternative can be seen in Table 5.2.

**Table 5-2
Alternatives Matrix**

Evaluation Criteria	Alt 1 (No Proj.)	Alt 2 (Alt. Site)	Alt 3 (Reduced Scale)	Alt 4 (Alt. Config.)	Alt 5 (Alt. Tech.)
Project Specific Elements	No	Yes	Yes	Yes	No
Meet all Project Objectives	No	Yes	No	Yes	No
Operational Efficiency	No	Yes	No	No	Yes
Lessen Significant Impacts	Yes	No	Yes	Yes	No
Physical Feasibility	Yes	Yes	Yes	Yes	No

Therefore, of the 5 alternatives, Alternative 3, the Reduced Scale of Project Alternative is the environmentally superior alternative and would result in the greatest reduction of environmental impacts compared to the proposed Project. This is primarily due to the reduced impacts to aesthetics, agricultural resources, air quality and greenhouse gases, geology and soils, hazardous materials, hydrology and water quality, noise and traffic. However, this scenario would not meet the proposed Project's primary objective of providing up to 80MW of renewable energy to assist the State's objectives of implementing California's Renewable Energy Portfolio Standards and goal of increasing the State's renewable energy resources to 33% of the total procurements by the year 2020.

REFERENCES

California Public Utilities Commission, California Renewables Portfolio Standards,
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California Environmental Protection Agency, Air Resource Board,
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<http://www.epa.gov/nsr/ghgdocs/electricgeneration.pdf>

Economic & Social Effects And Growth Inducing Chapter 6

INTRODUCTION

“Tulare County has one of the highest rates of unemployment in California and the nation, due in large part to the seasonal nature of agricultural employment. Employment figures for Tulare County are released by the California Employment Development Department (EDD) in the monthly Labor Force Report. The most recent figures available (December 2008) reveal a national unemployment rate of 7.2%, California is at 9.3%, and a rate of 14.3% for Tulare County.”¹

“Approximately 25 percent of the County’s population lives under the poverty level. A comparison between poverty levels from 1990 and 2000 shows overall the County’s poverty level has remained constant. However, upon closer investigation there appears to be improvement in some specific communities; London has improved from 64 percent to 45 percent and Tipton from 35 percent to 20 percent. Other communities have gotten worse; Pixley has slipped from 30 percent to 43 percent and Woodville has gone from 26 percent to 37 percent. Tulare County’s rural communities continue to have lower incomes and a higher level of poverty.”²

Economic Impacts

15131. ECONOMIC AND SOCIAL EFFECTS

“Economic or social information may be included in an EIR or may be presented in whatever form the agency desires.

- (a) Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.
- (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction and

¹ 2009 Tulare County Housing Element, page 30

² Ibid., page 35

use of the road and the resulting noise would be significant effects on the environment. The religious practices would need to be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices. Where an EIR uses economic or social effects to determine that a physical change is significant, the EIR shall explain the reason for determining that the effect is significant.

- (c) Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project.”³

This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include effects such as the “multiplier effect.” A “multiplier” is an economic term used to describe inter-relationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

Potential growth-inducing impacts must be discussed in relation to both the potential impacts on existing community service facilities and the way a project may encourage and facilitate other activities that could significantly affect the environment. It must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment.

Social Effects

Environmental Justice

“The basis for environmental justice lies in the Equal Protection Clause of the U.S. Constitution. The Fourteenth Amendment expressly provides that the states may not “deny to any person within [their] jurisdiction the equal protection of the laws” (U.S. Constitution, amend. XIV, §1).

On February 11, 1994, President Clinton signed Executive Order (E.O.) 12898, titled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” The executive order followed a 1992 report by the U.S. Environmental Protection Agency (U.S. EPA) indicating that “[r]acial minority and low-income populations experience higher than average exposures to selected air pollutants, hazardous waste facilities, and other forms of environmental pollution.” Among other things, E.O. 12898 directed federal agencies to incorporate environmental justice into their missions.”⁴

As evidenced by the analysis in 3.14, Population and Housing, the proposed Project is not within an established community. Land uses in the Project’s vicinity are predominantly agricultural, with scattered rural residences located less than one mile radius of the proposed Project site.

³ California Association of Environmental Professionals CEQA Guidelines, page168

⁴ State of California, General Plan Guidelines 2003, page 22, http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf

Given the distance between the proposed Project and any low income or minority communities, there would be no significant impact to Environmental Justice.

Growth Inducement

As outlined in the CEQA Guidelines § 15126 (d), growth-inducing impact of the proposed Project should be addressed.

The proposed Project will result in additional electrical generating capacity for the California electrical grid, increasing generating capacity by about 80 MW. The availability of additional electrical energy from the proposed Project is not in itself anticipated to be growth inducing by relieving a current constraint to growth.

The proposed Project responds to the State's need for renewable energy to meet its Renewable Portfolio Standard. Under the Renewable Portfolio Standard, California's goal is to increase the amount of electricity generated from renewable energy resources to 20 percent by 2010. In 2011, Legislation passed SB 2, which further increased the goal of 20 percent renewables up to 33 percent by 2020. Currently, California receives almost 14 percent of its electricity from biomass, geothermal, small hydro, wind, and solar sources. The power generated by the proposed Project will be added to the State's electricity grid, with the intent that it will displace fossil fueled power plants and their associated greenhouse gas emissions and augment existing supplies rather than add electricity generation capacity that relieves an existing constraint to state-wide growth.

The proposed Project will not result in the construction of any infrastructure other than underground/overhead fiber optic lines and subtransmission lines with utility poles. Subsequently, it will not relieve constraints to growth in the local area that might otherwise be relieved if the proposed Project was intended to provide new infrastructure whose capacity exceeds its specific needs. The proposed Project will create approximately 1 to 3 full-time jobs. It is anticipated that these employees would live in the general region (Ducor, Porterville, Strathmore), where there is adequate existing housing as the vacancy rate in Tulare County for the 2005-2009 period was almost 11 percent⁵. Construction workers are anticipated to commute to the site from these and other outlying communities, therefore, no new temporary (or permanent) housing would be required.

Based on the facts provided above, the proposed Project will not be growth inducing.

⁵ United States Census Bureau 2010

REFERENCES

2009 Tulare County Housing Element

Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162).

California Association of Environmental Professionals CEQA Guidelines, page168

State of California, General Plan Guidelines 2003, page 22,
http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf

United States Census Bureau 2010

Unmitigable Impacts

Chapter 7

ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

This Project will result in significant and unavoidable air quality and farmland conversion impacts. Combined with similar solar energy generating facilities in the Tulare County region, the cumulative impacts from this Project have the potential to significantly and unavoidably impact nearby residents and wildlife, resulting in a Mandatory Finding of Significance.

Under CEQA Guidelines Section 15126.2 (b), “[w]here there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the Project is being proposed, notwithstanding their effect, should be described.” This analysis should include a description of any significant impacts, including those which can be mitigated but not reduced to a level of insignificance.

The geographic area for this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Air Quality & Climate Change Impact Assessment for Tulare Solar Center, Cultural Resource Survey Report, Biological Survey Report, Project Phase I Environmental Site Assessment Report, the Tulare County 2030 General Plan, the associated General Plan Background Report, and the Tulare County 2030 General Plan EIR. The potential environmental impacts of the Project as a result of construction and development are associated with impacts to air quality and conversion of farmland to non-agriculture uses. Irreversible impacts can also result in the loss of approximately 800-acres of farmland as a consequence of the proposed Project. As described in greater detail in Sections 3.2 a) and e) Agriculture and Forestry, the proposed Project may potentially have significant and unavoidable impacts to farmlands of Local Importance and Statewide Importance identified by the California Department of Conservation, Farmland Monitoring Mapping Program. Furthermore, Sections 3.3 a) and b) of the Air Quality section describes potential significant and unavoidable impacts to local air quality levels thresholds adopted by the San Joaquin Valley Air Pollution Control District as a result of the Project’s construction-related activities phase. As such, these impacts are identified as being unavoidable, even with the implementation of mitigation measures. However, the benefits to Tulare County residents from the proposed Project (such as benefits of long-term air quality, renewable energy, and potential reduction cost from electricity providers) outweigh the costs of the environmental impact the Project may potentially generate.

Acronyms

(ARB)	California Air Resources Board
(CAAQS)	California Ambient Air Quality Standards
(CAP)	Climate Action Plan
(GHG)	Greenhouse Gas
(NAAQS)	National Ambient Air Quality Standards

IRREVERSIBLE IMPACTS

Pursuant to CEQA Guidelines Section 15126.2 (a), “The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), of the resource base such as water, historical resources, scenic quality, and public services.”

Under CEQA Guidelines Section 15126.2 (c), “[u]ses of nonrenewable resources during the initial and continued phases of the Project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the Project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. (See Public Resources Code section 21100.1 and Title 14, California Code of Regulations, section 15127 for limitations to applicability of this requirement.)”

STATEMENT OF OVERRIDING CONSIDERATIONS

Authority to Approve Project Despite Significant Effects

As contained in CEQA Guidelines Section 15043, “[a] public agency may approve a Project even though the Project would cause a significant effect on the environment, if the agency makes a fully informed and publicly disclosed decision that:

- (a) There is no feasible way to lessen or avoid the significant effect (see Section 15091); and
- (b) Specifically identified expected benefits from the Project outweigh the policy of reducing or avoiding significant environmental impacts of the Project.”

An agency may prepare a statement of overriding considerations. As noted in CEQA Guidelines Section 15093, “CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed Project against its unavoidable environmental risks when determining whether to approve the Project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed Project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered “acceptable.”

“When the lead agency approves a Project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.”

“If an agency makes a statement of overriding considerations, the statement should be included in the record of the Project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.”

Overriding Considerations for the Proposed Project

The findings described earlier indicate that the cumulative effects associated with reduction of Tulare County farmland acreage as a result of constructing the solar facility, and the effects of exceeding air quality threshold levels during construction phase will remain significant to nearby property owners despite implementation of proposed mitigation measures, and evaluation of the Project alternatives. Thus, Tulare County can conclude that there are no feasible alternatives that can reduce these potentially significant and unavoidable impacts to a less than significant level and that all feasible alternatives could have some significant and unavoidable impacts. The County can also determine that the Project results in the following public benefits that justify proceeding with the Project despite the adverse environmental impact:

Imposition of Mitigation

Agriculture and Forestry

Pursuant to CEQA Statute §21060.1, “Agricultural land” means Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California.

The proposed Project is consistent with Section 16 of Ordinance 352, as amended, which conditionally allows solar PV electric generating facilities within agriculturally zoned lands, subject to a Special Use Permit. The proposed Project area consists of undeveloped land zoned for agriculture, and is primarily designated as Farmland of Local Importance by the California Farmland Mapping and Monitoring Program (FMMP), with the exception of one 20-acre parcel which is classified as Lands of Statewide Importance designation. All proposed Project lands are contracted under the Williamson Act, and a review of site characteristics suggests a non-prime designation is appropriate for all parcels in the Project boundary.

The land conversion has been identified to have two incentives that helped determine Project consistency with agricultural uses: 1) the proposed Project will not introduce a nonagricultural use that is sensitive to or incompatible with agricultural operations that occur nearby; and 2) at the end of the solar facility’s operational life, infrastructure associated with the facility will be removed, which will allow the site to return to its original agricultural state, via a reclamation plan which is a standard condition of approval for every proposed solar PV electric generating facility in Tulare County.

The proposed Project is anticipated to have a 25 year lifespan, with the option to extend operation lifetime. Given that the Project has opportunity for additional time extensions in addition to the proposed 25 years, Mitigation Measure 3.2-1, has been incorporated as a condition of approval to the Special Use Permit in the event that the Project is abandoned for an

unknown reason, prior to its initial 25 year lifespan. Mitigation Measure 3.2-1, designates the developers (or successors) as the responsible party to properly remove all on-site solar PV materials from the Project, and to restore the site to an agriculture state. Alternatively, it is possible that the Project may take advantage of several life extensions, which is likely to exceed the Project's operations beyond 25 years. As a result, the approximate 800-acres of farmland utilized by the Project site would be out of farming production for several more years. Specifically, the proposed Project could potentially affect the long-term farming opportunity of the 20-acres identified by FMMP as lands of Statewide Importance due to the proposed Project.

Air Quality

State CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would “*violate any air quality standard or contribute substantially to an existing or projected air quality violation*” would be considered to create significant impacts on air quality. Therefore, an air quality impact analysis should determine whether the emissions from a project would cause or contribute significantly to violations of the National (NAAQS) or California Ambient Air Quality Standards (CAAQS) when added to existing ambient concentrations.

As described in Section 3.3.a) and Section 3.3.b) Air Quality, Project construction-related activities are anticipated to temporarily exceed air quality thresholds for NO_x levels, as specified by the San Joaquin Air Pollution Control District, during Project construction phase. However, the Project construction phase is temporary, and approximately 12 months is planned for construction duration. According to the Project's Air Quality & Climate Change Impact Assessment¹, NO_x emissions will temporarily exceed the District's threshold of significance of 10 tons per year established by the District for NO_x levels. The District's Indirect Source Review requirements under Rule 9510 require construction vehicle exhaust emissions to be mitigated by 20% for NO_x pollutants. Mitigation Measure 3.3-1, has been recommended by the Air District in order to mitigate the Project's construction-related impacts to air quality. The construction phase will implement the clean fleet policy to reduce exhaust emission through prioritizing the use of newer, cleaner burning equipment during construction. The utilization of cleaner burning equipment has to be documented by the construction team on the District's prescribed detailed fleet form for the duration of the Project's construction. Exhaust emission reduction calculations after Project build-out will be based on the actual usage of construction equipment from the detailed fleet records. As such, it will be unavoidable that the Project will temporarily, exceed NO_x threshold levels based on the Air Quality and Climate Change Impact Assessment for Tulare Solar Center. A more accurate assessment of the generated Project emission levels will be determined from the construction fleet records at Project completion.

Alternatively, the Project's operation will be maintained and manned by a minimal number of employees to operate the day-to-day operation of proposed Project. The operation of the solar modules will not result in the generation of emissions that will exceed the Air District's threshold levels for NO_x, CO, VOC, PM₁₀ or SO_x emissions. Project operational emissions will be primarily generated by employee trips via company or personal vehicle usage, and water hauling for PV panel washing and associated maintenance that will total between 0 and 10 trips per day.

¹ Appendix C

Finding of No Feasible Alternatives

CEQA section 21061.1 defines “feasibility” as involving a balancing of various economic, environmental, social, and technological factors.

The primary purpose of the proposed Project is to assist the state of California meet its renewable energy goals, which have been developed primarily to reduce consumption of natural resources such as fossil fuels. Additionally, the proposed Project strives to reduce the effects of global climate change and greenhouse emissions. As such, the proposed solar Project will generate an alternative source of energy via solar photovoltaic panels. The proposed Project assists California in offsetting the use of non-renewable resources and will contribute to an overall reduction on resources currently being consumed to generate electricity. As noted in this section, the proposed Project may have significant and unavoidable impacts on approximately 800-acres of Tulare County farmland, and Project construction-related activities will temporarily exceed NOx air quality thresholds. However, the overall purpose of the proposed Project is to reduce California’s carbon footprint and reduce greenhouse gas emission levels by transitioning to alternative resources to generate renewable energy electricity. Therefore, appropriate mitigation measures for Agricultural Farmland and Air Quality cumulative impacts were considered for the proposed Project although it is probable for the Project to still have significant and unavoidable impacts.

PROJECT BENEFIT STATEMENTS

Project Benefit # 1: Implementation of AB 32

AB 32 has defined plans and programs for year 2020, with the vision of year 2050 that sets a goal to reduce 80% of greenhouse gas (GHG) compared to the 1990 base year. AB 32 resulted in the adoption of the AB 32 Scoping Plan in 2008 that included a series of measures adopted by the California Air Resources Board (ARB) AB32 Scoping Plan and the State’s Renewable Portfolio Standard (RPS) which calls for increasing renewable electricity in the State. The Scoping Plan’s intent is to reduce California GHG emissions, and the very nature of the proposed Project will represent improvements beyond what can be considered “business as usual” (BAU). Assuming BAU would be fossil fueled electricity generation sources, the proposed Project will reduce GHG emissions. As reported in the 2011 IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation, a PV Solar project would demonstrate 15-30 times less CO₂^e emissions as compared to burning fossil fuels to achieve the same energy outputs²

Project Benefit # 2: General Plan Update 2030 – Climate Action Plan

“The Tulare County Climate Action Plan (CAP) serves as a guiding document for County of Tulare (“County”) actions to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce

²2011 IPCC Special Report on Renewable Energy Sources and Climate Change Mitigations, <http://srren.ipcc-wg3.de/report>

fewer greenhouse gas emissions during Plan build-out. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets consistent with California legislation."³

The proposed Project was developed to support and implement the policies adopted by the County of Tulare to address climate change through its General Plan and Climate Action Plan. The proposed Project is intended to increase the amount of renewable energy put into the existing electrical grid. In addition, the facility will assist in meeting state greenhouse gas emissions reductions by providing an alternative source of renewable energy to slightly reduce Tulare County's fossil fuel dependency.

Project Benefit # 3: CEQA Guidelines Appendix F - Energy Conservation

According to Appendix F of the State CEQA Guidelines, the goal of conservation energy implies wise and efficient use of energy including decreasing reliance on natural gas and oil and increasing reliance on renewable energy resources. "Energy conservation implies that a project's cost effectiveness is reviewed not only in dollars, but also in terms of energy requirements." The proposed Project itself will achieve this goal because it will create a renewable source of energy. The Project will assist the State in offsetting the use of nonrenewable resources to produce energy, and contribute to an overall reduction in nonrenewable resources currently consumed to generate electricity. The long-term benefits of the proposed Project outweigh the significant and unavoidable impacts, which are identified in this chapter, of addressing air quality emissions and farmland conversion associated with the construction of the solar PV electric generating facility. The objective of the proposed Project is to assist California in meeting its target goals for electric retail sellers to provide 33 percent of their electricity load with renewable energy by 2020, identified in California's Renewable Portfolio Standard.

Project Benefit # 4: Implementation of Countywide General Plan Policies

The proposed Project will implement the following County General Plan policies:

AG-2.11 Energy Production, the County shall encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste and solar or wind farms.

ERM-4.6 Renewable Energy, the County shall support efforts, when appropriately sited, for the development and use of alternative energy resources, including renewable energy such as wind, solar, bio-fuels and co-generation. This Project will support the County's transition to renewable energy resources by the mean of General Plan Policy implementation for solar PV electric generating facility developments.

LU-7.15 Energy Conservation, The County shall encourage the use of solar power and energy conservation building techniques in all new development.

³ Tulare County Climate Action Plan, page 1

AQ-1.7 Regional Perspective, The County shall support statewide climate change solutions monitor and support the efforts of Cal/EPA, CARB, and the SJVAPCD, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies. As appropriate, the County will evaluate each new Project under the updated General Plan to determine its consistency with the emission reduction strategies.

REFERENCES

Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162).

2011 IPCC Special Report on Renewable Energy Sources and Climate Change Mitigations,
<http://srren.ipcc-wg3.de/report>

Tulare County Climate Action Plan, page 1

Mitigation Monitoring Reporting Program

Chapter 8

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in compliance with State law and the Environmental Impact Report (EIR) (State Clearinghouse No. 2013021039) prepared for the project by the County of Tulare.

The California Environmental Quality Act (CEQA) Section 21081.6 requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid adverse effects on the environment.¹ The law states that the reporting or monitoring program shall be designed to ensure compliance during project implementation. The Mitigation Monitoring and Reporting Program contains the following elements:

- **Action and Procedure.** The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.
- **Compliance and Verification.** A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.
- **Flexibility.** The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the Mitigation Monitoring and Reporting Program. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program.

¹ Public Resource Code §21081.6

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**Table 8-1
Mitigation Monitoring Reporting Program**

Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
Aesthetics							
3.1-1	All exterior lighting shall be so adjusted as to deflect direct rays away from public roadways and adjacent properties.	Prior to Issuance of Building Permit	Verification by County of incorporation of project design features subject to issuance of building permits	County of Tulare Planning Department			
3.1-2	The module racking system and any related tilt-control structures, substation(s), and associated equipment shall utilize muted coating colors, with a matte finish prior to the final inspection by the building department.	Prior to Issuance of Building Permit	Verification by County of incorporation of project design features subject to issuance of building permits	County of Tulare Planning Department			
Air Quality							
3.3-1 (a and b)	The construction fleet shall achieve exhaust emission reductions through the prioritized use of newer, cleaner burning equipment during construction.	Prior to Issuance of Building Permit	Verification by County of compliance with the San Joaquin Valley Air Pollution Control	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	The utilization of cleaner burning equipment shall be documented by the construction team on the District's prescribed detailed fleet form for the Project duration. Exhaust emission reduction calculations after project build-out shall be based on the actual usage of construction equipment from the detailed fleet records.		District Rule 9510				
Biological Resources							
3.4-1 (a)	<i>San Joaquin kit fox surveys.</i> A qualified biologist shall conduct surveys for the San Joaquin kit fox within 200 feet of areas with potential kit fox habitat (marked with orange polygons on Figure 3 of Appendix C). These surveys should occur between 14 and 30 days prior to the start of construction activities, in accordance with the January 2011, USFWS' <i>Standardized Recommendations for Protection</i>	Prior to issuance of grading permits	Retention of professional biologist/ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program						
Mitigation Measure	Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
<p><i>of the San Joaquin Kit Fox Prior to or During Ground Disturbance². Surveys should identify kit fox habitat features on the Site and evaluate use by kit fox, and if possible, assess the potential impacts to the kit fox by the proposed Project. The status of all dens shall be determined and mapped. Written results of the preconstruction/pre-activity surveys must be received by the USFWS within five days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the Project Site or within 200-feet of the Project boundary, the USFWS shall be notified immediately. If the preconstruction/preactivity survey reveals an active natal pupping, the applicant shall contact the USFWS immediately to obtain the</i></p>						

² U.S. Fish and Wildlife Service Standardized Recommendations for Protecting of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	necessary take authorization/permit.						
3.4-2 (a)	Preconstruction/ Pre-activity shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, and assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped. Written results of preconstruction/ pre-activity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
3.4-3 (a)	Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning Department			
3.4-4 (a)	If a natal/ pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/ pre-activity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit, if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
3.4-5 (a)	Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit if applicable.	County of Tulare Planning Department			
3.4-6 (a)	If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
3.4-7 (a)	Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Verification of employee/operators State issued license to operate vehicle and construction equipment.	County of Tulare Planning Department			
3.4-8 (a)	To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 3.4-16 referenced below.		take permits if applicable.				
3.4-9 (a)	Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit, if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.						
3.4-10 (a)	All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Construction Manager	County of Tulare Planning Department			
3.4-11 (a)	No pets, such as dogs or cats, should be permitted on the Project site to prevent harassment, mortality of kit foxes, or	Prior to issuance of grading permits Ongoing	Retention of professional biologist/ archeologist/ ongoing	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	destruction of dens.	monitoring during subsurface excavation	monitoring/ submittal of Report of Findings, if applicable.				
3.4-12 (a)	Use of rodenticides and herbicides in project areas should be restricted. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable.	County of Tulare Planning Department			
3.4-13 (a)	A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	provided to the Service.						
3.4-14 (a)	An employee education program should be conducted for projects that have anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.						
3.4-15 (a)	Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. shall be re-contoured if necessary, and re-vegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be re-vegetated. Appropriate methods and plant species used to re-vegetate such areas shall be determined on a site-specific basis in consultation with the Service, California Department						

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	of Fish and Game (CDFG), and revegetation experts.						
3.4-16 (a)	In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit, if applicable.	County of Tulare Planning Department			
3.4-17 (a)	Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. The Sacramento Fish and Wildlife Office and CFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit, if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The current CFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.						
3.4-18 (a)	<p>New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.</p> <p>Any project-related information required by the Service or questions concerning the above conditions or their</p>	<p>Prior to issuance of grading permits</p> <p>Ongoing monitoring during subsurface excavation</p>	<p>Various Actions:</p> <p>Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable.</p> <p>Verification of take permit if applicable.</p>	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division 2800 Cottage Way, Suite W2605 Sacramento, California 95825-1846 (916) 414-6620 or (916) 414-6600						
3.4-19 (a)	Burrowing owl surveys. As recommended by CDFG ³ , and in accordance with CDFG's 2012 <i>Staff Report on Burrowing Owl Mitigation</i> , a qualified biologist shall conduct three surveys for burrowing owls where potential burrowing owl habitat occurs within 500 feet of Project activities (i.e., areas marked with orange polygons on Figure 3 of Appendix C). Surveys shall occur during the peak breeding season for this species (15 April through 15 July),	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permits if applicable.	County of Tulare Planning Department			

³ Lori Bono, CDFG, pers comm, 5 April 2012

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	and spaced three weeks apart. If active burrowing owl burrows are identified within 500 feet of the Project site, then avoidance, take avoidance surveys, site surveillance, minimization, and buffer mitigation measures shall be implemented, in accordance with the 2012 CDFG <i>Staff Report</i> and direct consultation with CDFG.						
3.4-20 (a)	<i>Nesting bird surveys.</i> If Project construction activities are going to occur within the nesting bird season (i.e., 15 February through 31 August), then within two weeks prior to construction a visual nesting bird survey shall be conducted of all overhead powerline structures/facilities, grasslands, and trees within 500 feet of proposed activities. If an active nest of a native bird species is encountered, the nest shall not	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Various Actions: Retention of professional biologist/ ongoing monitoring/ submittal of Report of Findings, if applicable. Verification of take permit, if applicable.	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	be disturbed until chicks have fledged or otherwise abandoned their nest, which could be for several weeks. In addition, CDFG shall be consulted to determine a suitable avoidance buffer around the active nest.						
3.4-21 (c)	Wetland. A formal wetlands delineation shall be prepared by a qualified wetland consultant and submitted to the Regional Water Quality Control Board for verification to confirm the extent of jurisdictional wetlands and other waters on the Project site. A Section 401 Certification shall be obtained from the Regional Water Quality Control Board where waters of the US are directly affected by the Project. Conditions required as a part of the authorization by the RWQCB shall be implemented as part of the Project.	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Verification by County of incorporation of project design features and issuance of building permits	County of Tulare Planning Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
Cultural Resources							
3.5-1 (a-c)	The project proponent shall continuously comply with the following: In the event that historical, archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the Project site be immediately suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. In this event, the property owner shall retain a qualified archaeologist/paleontologist to provide recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional paleontologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning and Public Works Department			

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	recover, excavation analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of Project design as previously approved by the County.						
3.5-2 (d)	Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during Project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a	Prior to issuance of grading permits Ongoing monitoring during subsurface excavation	Retention of professional paleontologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning and Public Works Department			

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Mitigation Monitoring Reporting Program						
Mitigation Measure	Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
<p>dedicated cemetery, the following steps should be taken:</p> <ol style="list-style-type: none"> 1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: <ol style="list-style-type: none"> a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; and b. If the coroner determines the remains to be Native American: <ol style="list-style-type: none"> i. The coroner shall contact the Native American Heritage Commission within 24 hours. ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased 						

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Mitigation Monitoring Reporting Program							
Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Verification of Compliance		
					Initials	Date	Remarks
	<p>Native American.</p> <p>iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or</p> <p>2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.</p> <p>a. The Native American Heritage Commission is unable to identify a most likely</p>						

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Mitigation Monitoring Reporting Program							
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	<p>descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.</p> <p>b. The descendant fails to make a recommendation; or</p> <p>c. The landowner or his authorized representative rejects the recommendation of the descendent.</p>						
Hydrology & Water Quality							
3.9-1 (a)	<p>Drainage and Pond Plans. Drainage and pond plans will be reviewed and approved by the Central Valley Regional Water Quality Control Board and may require a National Pollution Discharge and Elimination System (NPDES) permit. The on site drainage will also be reviewed by Tulare County Environmental Health and the Public Works Department to verify that the site</p>	Prior to Issuance of Building Permits	County Verification prior to Issuance of Grading Permit	County of Tulare Planning Department			

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	does in fact contain the 100 year / 24 hour event per the Central Valley Regional Water Quality Control Board standards.						
Noise							
3.12-1 (a)	All construction equipment shall be equipped with noise-reducing mufflers or other sound absorbing material (retro-fitted to gas and diesel-powered equipment).	During Construction	County Verification of Issuance of Building Permits	County of Tulare Planning Department			
Public Services							
3.14-1 (a)	Applicant shall provide an all weather access road to the site and any facilities affected by the Special Use Permit.	Prior to Issuance of Building Permits	County verification prior to Issuance of Building Permits.	County of Tulare Planning Department			
3.14-2 (a)	Applicant shall submit plans for all new construction, and shall comply with the provisions of the 2012 Cal Green Building Code, Fire Code, Mechanical Code, Electric Code and Plumbing Code, as applicable.	Prior to Issuance of Building Permits	County Verification of Site Plan prior to issuance of a Building Permit	County of Tulare Planning Department			
3.14-3 (a)	The Tulare County Fire Department shall be notified of the proposed start date of any	Prior to Issuance of Building	County Verification of Approval of Site	County of Tulare Fire Department			

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	processing, storage, or special use granted and mitigated prior to initiation of any building operations.	Permits	Plan Design Prior to Issuance of Building Permit	and Public Works Department			
3.14-4 (a)	Violations of any of these conditions shall result in Tulare County Fire Department's rescission of approval of the Special Use Permit.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department			
3.14-5 (a)	The Fire Department requires a Knox box to be installed at an approved location to permit entry to the site.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department			
3.14-6 (a)	All access gates shall be set back 30 feet from the roadway for fire apparatus access.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department, County of Tulare Planning Department, and Public Works Department			

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Mitigation Monitoring Reporting Program							
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3.14-7 (a)	All combustible vegetation shall be removed from the site and Tulare County Fire department approved measures taken to prevent the accumulation of combustible vegetation that would create a fire hazard.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department and Public Works Department			
3.14-8 (a)	Access roads of an all-weather surface shall be provided so that no portions of the photovoltaic panels are farther than 155 feet from a fire apparatus access road.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department and Public Works Department			
3.14-9 (a)	Access roads shall be a minimum of 20 feet in width (non-obstructed), with a maintained 13 feet 6 inches vertical clearance.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department and Public Works Department			
3.14-10 (a)	20-foot fire access roads shall be constructed at intervals of no greater than 310 feet.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department and Public Works Department			
3.14-11 (a)	Applicant shall be responsible for training fire personnel of facility	Prior to Issuance of	County Verification of	County of Tulare Fire			

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Mitigation Monitoring Reporting Program							
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	operations, hazards, and emergency procedures for shutting down the operation.	Occupancy Permits	personnel training and operation certification prior to occupancy.	Department			
3.14-12 (a)	Posted address visible from roadway, minimum of 4 inch numbers.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department			
3.14-13 (a)	If buildings are proposed, National Fire Protection Agency (NFPA) 1142 standards for rural water supplies shall be required.	Prior to Issuance of Building Permits	County Verification of Approval of Site Plan Design Prior to Issuance of Building Permit	County of Tulare Fire Department, County of Tulare Planning Department and Public Works Department			

REFERENCES

Public Resource Code §21081.6, <http://law.onecle.com/california/public-resources/21081.6.html>

U.S. Fish and Wildlife Service Standardized Recommendations for Protecting of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance,
http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

Report Preparation

Chapter 9

INTRODUCTION

Key staff from the County of Tulare and the consulting firms that contributed to preparation of the Draft Environmental Impact Report (Draft EIR) are identified below:

THE COUNTY OF TULARE COUNTY

This EIR has been prepared for:

Tulare County Resource Management Agency (RMA)
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Tulare County Planning Commissioners:

- Nancy Pitigliano, Commissioner Tipton- District 2
- Bill Whitlatch, Commissioner (Chair) Visalia- District 3
- Wayne O. Millies, Commissioner Springville- District 5
- Melvin K. Gong, Commissioner Orosi- District 4
- John F. Elliott, Commissioner Three Rivers- District 1
- Ed Dias, Commissioner (Vice Chair) Visalia- At Large
- Charlie Norman, Commissioner

Tulare County Resources Management Agency Management:

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Tulare County Resource Staff who Reviewed this Document:

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AMEC Environmental and Infrastructure, Inc.

Cultural Resource Survey Report

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- Andrea Bardsley

Environmental Resources Management

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Environmental Resources Management

Biological Survey Report, for Tulare Solar Center

- Scott Weaver, Partner in Charge
- Dana Ostfeld, Project Manager/Biologist
- Sarah Piper, Project Ecologist

Provost and Pritchard Consulting Group

Land Evaluation Site Assessment

- Micah Bowman, PE

Ruettgers & Schuler Civil Engineers

Traffic Investigation Study

- Ian Parks, P.E.