AGENDA
September 9, 2019

This meeting will be held in the Board of Supervisors Chambers, Administration Building No. 1, Kings County Government Center, 1400 W. Lacey Boulevard, Hanford, California. Pursuant to California Government Code Section 65009, subdivision (b), if you challenge a decision of the Planning Commission in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Planning Commission at, or prior to, the public hearing.

I. CALL TO ORDER - Kings County Planning Commission Meeting

1. REQUEST THAT CELL PHONES BE TURNED OFF
2. PLEDGE OF ALLEGIANCE
3. SUMMARY OF THE AGENDA - Staff
4. UNSCHEDULED APPEARANCES
   Any person may address the Commission on any subject matter within the jurisdiction or responsibility of the Commission at the beginning of the meeting; or may elect to address the Commission on any agenda item at the time the item is called by the Chair, but before the matter is acted upon by the Commission. Unscheduled comments will be limited to five minutes.
5. APPROVAL OF MINUTES - Meeting of August 5, 2018.

II. OLD BUSINESS - None

III. NEW BUSINESS

1. Conditional Use Permit No. 17-04 (Westlands Aquamarine) – A proposal to establish a 250 Megawatt (MW) photovoltaic solar energy generating facility, including an operations and maintenance (O&M) building, project substation, access driveways and interconnection/gen-tie line to be constructed on approximately 1,825 acres, located at 24999 Laurel Avenue, Stratford, California, Assessor’s Parcel Numbers (APNs):

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<th>Section 9</th>
<th>Section 15</th>
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<td>026-010-057</td>
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A. Staff Report
B. Public Hearing
C. Decision

2. Conditional Use Permit No. 17-14 (Hanford-Lakeside Dairy Digester Cluster Project) – A proposal to establish a dairy biogas collection and biomethane injection project together with buried biogas gathering lines which will deliver the biogas to the facility from as many as 18 dairies, to be located at 15664 7th Avenue, Hanford, California, Assessor’s Parcel Numbers (APNs): 028-080-016:

A. Staff Report
B. Public Hearing
C. Decision

IV. MISCELLANEOUS

1. FUTURE MEETINGS - The next regular meeting of the Planning Commission is scheduled for Monday, October 7, 2019.

2. CORRESPONDENCE
3. STAFF COMMENTS
4. COMMISSION COMMENTS

V. ADJOURNMENT
CALL TO ORDER: The meeting of the Kings County Planning Commission was called to order by Greg Gatzka in the absence of the Chairman or Vice Chairman at 7:00 p.m. in the Board of Supervisors Chambers, Administration Building, Kings County Government Center, Hanford, California. The Pledge of Allegiance was recited.

COMMISSIONERS PRESENT: Jim Maciel, April Bryant, Riley Jones

COMMISSIONERS ABSENT: Steven Dias, Doug Wisecarver

STAFF PRESENT: Greg Gatzka – Director, Diane Freeman – County Counsel, Chuck Kinney – Deputy Director – Planning, Alex Hernandez – Planner, Terri Yarbrough – Executive Secretary

VISITORS PRESENT: Brandon Jones, Rick Levy, Catherine Silvester, Paris Hays, Cheryl Bailey, Christi Herron, Paavo Luoma, Scott Leonard, Mike Toomes

SUMMARY OF THE AGENDA: Mr. Gatzka summarized the agenda for the Commission. Election of officers was moved to the beginning of the agenda due to the absence of the Chairman and Vice Chairman.

NEW BUSINESS:

Election of officers

Mr. Gatzka asked for nominations for Chairman. A motion was made and seconded (Maciel/Bryant) to nominate Riley Jones for Chairman. Motion carried unanimously with Dias and Wisecarver absent. A motion was made and seconded (Jones/Bryant) to nominate Jim Maciel for Vice Chairman. Motion carried unanimously with Dias and Wisecarver absent.

UNSCHEDULED APPEARANCES: None

APPROVAL OF MINUTES: A motion was made and seconded (Maciel/Bryant) to approve the minutes of the December 3, 2018 meeting. Motion carried unanimously.

OLD BUSINESS: None

NEW BUSINESS:

1. Conditional Use Permit No. 18-01 (RE Slate Solar)

Mr. Kinney provided a summary of a proposal to establish a 300 megawatt photovoltaic solar energy generating facility, including an energy storage facility, operations and maintenance building and associated infrastructure to be constructed on approximately 2,490 acres.

Chairman Jones opened the public hearing and asked if there was anyone wanting to comment in favor of the project. Mr. Paris Hays, Senior Manager on the Development Team for Recurrent Energy, stated he and his colleagues were available for any questions on the project. Chairman Jones asked if there was anyone else wanting to speak in favor of the project, seeing none he asked if there was anyone wanting to speak in opposition of the
project. Mr. Paavo Luoma said he was not for or against the project but wanted to know if this was an existing solar farm being taken over by another company. Chairman Jones asked if there was anyone else wanting to speak either in favor of or in opposition of the project. Seeing none, he closed the public hearing.

Commissioner Maciel asked if there would be a continuous build out or if it would be over a period of time. Mr. Hays stated it would be one single construction. Ms. Bryant asked how many homes would be powered from this project and how far out the power would go. Mr. Hays stated approximately 75,000 homes would receive power and that they only sell the energy to the utility companies who distribute. Chairman Jones asked when the project was anticipated to start. Mr. Hays stated they would start in 2020 and complete the project by the end of 2021.

A motion was made and seconded (Jones/Bryant) to adopt Resolution 19-01 approving CUP 18-01 for a 300 Megawatt photovoltaic solar energy generating facility. Motion carries unanimously with Dias and Wisecarver absent.

**MISCELLANEOUS**

1. **FUTURE MEETINGS:** The next regular meeting of the Planning Commission is scheduled for Monday, September 9, 2019

2. **CORRESPONDENCE:** None

3. **STAFF COMMENTS:** None

4. **COMMISSION COMMENTS:** None

**ADJOURNMENT** – The meeting was adjourned at 7:19 p.m.

Respectfully Submitted,

KINGS COUNTY PLANNING COMMISSION

[Signature]

Greg Gatzka, Commission Secretary

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KINGS COUNTY PLANNING COMMISSION
STAFF REPORT

Conditional Use Permit No. 17-04 Amendment
Development Code No. 668.13

APPLICANT: Westlands Aquamarine, LLC

PROPERTY OWNER: Westlands Aquamarine, LLC, 4700 Wilshire Boulevard, Los Angeles, CA 90010

LOCATION: The proposed project is to be located at 24999 Laurel Avenue, Stratford, on an approximately 1,825-acre site located within an unincorporated portion of Kings County. The site is located southeast of Avenal Cutoff Road, occupying lands on the north and south sides of Laurel Avenue, and on the east and west sides of the unimproved 25th Avenue alignment.

GENERAL PLAN DESIGNATIONS: Exclusive Agriculture 40-Acre (eastern 754 acres); General Agriculture 40-Acre (western 1,071 acres).

ZONE DISTRICT CLASSIFICATION: General Agriculture (AG-40)

CONDITIONAL USE PROPOSED: Westlands Aquamarine Solar, LLC (Applicant) proposes to construct, operate, maintain, and decommission the Aquamarine Solar Project (Project), consisting of up to a 250 MW alternating current (AC) solar PV power generating facility on approximately 1,825 acres of private lands.

The Project would provide renewable generation capacity that would be dispatched to the California electricity market. The electrical energy generated by the Project would be delivered to the Pacific Gas and Electric Company (PG&E) electrical transmission grid pursuant to terms and conditions of an Interconnection Agreement. The Project would be connected to the electrical grid at the existing PG&E Gates Substation located approximately 15 miles southwest of the Project site in Fresno County. In order to convey the solar-generated power from the Aquamarine Solar Project to the electrical grid, the Project includes the construction of 8.7 miles of 230-kV gen-tie line within Kings County, which would continue on for an additional 6.3 miles in Fresno County to the Gates Substation.
Major on-site facilities include the solar power generating facility, a 230 kilovolt (kV) substation, and O&M facilities. Access to the solar site will be provided via existing Avenal Cutoff Road and Laurel Avenue. Utilities including water and electric distribution lines will also be located on-site or adjacent. Communications lines will be either provided at or adjacent to the Project site, or by microwave tower.

Temporary facilities, required for Project construction, include the mobilization, laydown, pulling/tensioning areas, water, and utilities for construction. These facilities would be removed at the end of the construction period.

**CURRENT USE OF SITE:**

The approximately 1,825-acre Project site is comprised of multiple parcels as shown in Table A. Most of the site is currently used for the cultivation of winter wheat during the wet season and is typically left fallow during the dry season. Existing easements on the Project site are associated with existing water and natural gas pipelines, and existing electrical transmission lines.

| Table A: Assessor’s Parcel Nos: |
|-----------------|-----------------|-----------------|
| **Section 9**   | **Section 15**  | **Section 16 (cont’d)** |
| 026-010-040     | 026-260-04      | 026-290-32      | 026-290-63      |
| 026-010-057     | 026-260-09      | 026-290-33      | 026-290-72      |
| 026-010-058     | 026-260-34      | 026-290-42      | 026-290-73      |
| 026-010-059     |                 | 026-290-46      | 026-290-74      |
| **Section 16**  |                 | 026-290-50      | 026-290-75      |
| **Section 14**  | 026-290-08      | 026-290-51      | 026-290-76      |
| 026-260-37      | 026-290-10      | 026-290-27      | 026-290-77      |
|                 | 026-290-12      | 026-290-32      | 026-290-78      |
| **Section 22**  | 026-290-26      | 026-290-57      | 026-290-79      |

**DISCUSSION:**

The Aquamarine Solar Project is located within the Westlands Solar Park (WSP), a master planned solar complex covering approximately 20,938 acres in central Kings County. The WSP Master Plan and Gen-Tie Corridors Plan was prepared by the Westlands Water District (WWD) to provide policy guidance for the reuse of retired farmlands owned by WWD, which comprise approximately half of the Master Plan area. In compliance with State CEQA Guidelines Section 15168, the WWD prepared a Program Environmental Impact Report (PEIR) (SCH No. 2013031043) which addressed the potential environmental impacts associated with future solar development under the WSP Master Plan and Gen-Tie Corridors Plan. The PEIR also addressed the potential impacts associated with the planned gen-tie corridor.
extending from the WSP to the Gates substation to the west, which is required for the transmission of WSP solar generation to the State electrical grid. On January 16, 2018, the WWD Board of Directors certified the PEIR under CEQA and approved the WSP Master Plan and Gen-Tie Corridors Plan as a WWD policy document.

The PEIR on the WSP Master Plan and Gen-Tie Corridors Plan (hereinafter “WSP Master Plan PEIR”) was prepared in close coordination with the staff of the Kings County Community Development Agency (CDA), in recognition of the County’s role as a responsible agency for the approval of Conditional Use Permits (CUPs) for individual solar generating facilities (SGFs) to be developed within the WSP Master Plan area. This approach was intended by both WWD and Kings County CDA to provide for the tiering of subsequent CEQA documents from the PEIR, as provided under CEQA Guidelines Section 15168 (see the next paragraph for a discussion of “tiering” under CEQA). The Draft PEIR incorporated all revisions requested by the Kings County CDA with the express purpose of making the PEIR consistent with County policies and practices, and thus facilitating the ability of the Kings County Planning Commission to adopt subsequent CEQA documents (Supplemental EIRs or Initial Studies/Mitigated Negative Declarations [IS/MNDs]) that would be tiered from the certified PEIR. This would also enable the certified PEIR to be incorporated by reference into the subsequent EIRs or IS/MNDs prepared by Kings County (per CEQA Guidelines Section 15150), and would enable the Planning Commission to consider the contents of the certified PEIR when adopting the subsequent EIRs or IS/MNDs for solar projects proposed within the WSP Master Plan area.

The concept of tiering is addressed in CEQA Guidelines Sections 15152 and 15168(c). "Tiering" refers to the coverage of general environmental matters in broad, program- or plan-level EIRs, such as the WSP Master Plan PEIR, with subsequent focused environmental documents prepared for individual projects that implement the program or plan. The IS/MND for the proposed project incorporates by reference the broader discussions in the Program EIR and concentrates on project-specific issues. The CEQA Statutes and the Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the Program EIR and by incorporating those analyses by reference.

Under CEQA Guidelines Section 15052, a Responsible Agency may assume the role of Lead Agency if it finds that further environmental documentation is required under CEQA in conjunction with a
subsequent project-specific approval within its purview. This provides for Kings County’s preparation of a subsequent EIR or IS/MND that is tiered from the Program EIR for purposes of CUP approval.

LAND USE
SURROUNDING SITE:

The Project would be constructed on an approximately 1,825-acre site located in Kings County, California. The Project site is located southeast of Avenal Cutoff Road and is centered on the intersection of Laurel Avenue and the unimproved 25th Avenue alignment. The lands surrounding the Aquamarine project site consist mainly of agricultural lands along with related irrigation canals, ditches, wells, pump stations, power lines, and farm roads. The Kent South solar generating facility is located approximately 0.4 miles north, along with an adjacent substation and switching station. The Henrietta substation and peaker plant are located 2.1 miles north on the east side of 25th Avenue. To the east of the Aquamarine site are a series of five dispersed agricultural residences located along and near 22nd Avenue. These residences are located 1.3 to 1.8 miles from the eastern boundary of the Aquamarine site. The nearest ranch complex is the Shannon Ranch located approximately 2.0 miles southwest at the corner of Avenal Cutoff Road and Lincoln/Gale Avenue. The Shannon Ranch includes 20 housing units.
Solar PV Modules on Horizontal Trackers

Solar Array Details

Source: Stellavise
ENVIRONMENTAL REVIEW: A review of this project in compliance with the *California Environmental Quality Act (CEQA)* indicates that there may be significant adverse impacts to the environment; however, those impacts can be mitigated to less-than-significant level by implementing the mitigation monitoring program attached as Exhibit “A.” Implementation of Mitigation Measures (MMs) included within the Mitigation Monitoring and Reporting Program (MMRP) would reduce the project potential for adverse effects on the environment to less-than-significant levels. The environmental review period for the proposal ran from May 17, 2019 through June 17, 2019. A copy of the Initial Study/Mitigated Negative Declaration (IS/MND) is attached.

PROJECT REVIEW:

<table>
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<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>March 31, 2017</td>
<td>Application submitted</td>
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<tr>
<td>May 13, 2019</td>
<td>Application certified complete</td>
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<tr>
<td>May 17, 2019</td>
<td>Begin 30-day review period for environmental review</td>
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<tr>
<td>June 17, 2019</td>
<td>30-day environmental review period ends</td>
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<tr>
<td>September 9, 2019</td>
<td>Planning Commission hearing</td>
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STAFF ANALYSIS:

In order to approve this permit, the Commission is required to make the following findings pursuant to Section 1707 of the *Kings County Development Code*:

1. The proposed use is consistent with the General Plan.
2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the *California Environmental Quality Act (CEQA)*.
3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or (b) there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.
4. The proposed conditional use complies with all applicable standards and provisions of this Development Code and the purposes of the district in which the site is located.
5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties, or improvements in the vicinity.
6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.
7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.
8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.
9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

With regard to these required findings, staff comments that:

1. The proposed use is consistent with the General Plan.

   **Finding:** The proposal conforms with the policies of the Kings County General Plan, specifically:

   A. Figure LU-11 of the *2035 Kings County General Plan* designates this site as Exclusive Agriculture 40-Acre Minimum (eastern 754 acres), and General Agriculture 40-Acre Minimum (western 1,071 acres).

   B. Page LU-13, Section III.A.1. of the “Land Use Element” of the *2035 Kings County General Plan* states that agricultural land use designations account for a vast majority of the County’s land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General agriculture 20-Acre Minimum, General Agriculture 40-Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service business. These designations preserve land best suited for agriculture, protect land from premature conversion, prevent encroachment of incompatible uses, and establish intensity of agricultural uses in manner that remains compatible with other uses within the County. The development of agricultural services and produce processing facilities within the Agricultural areas of the County shall develop to County Standards.

   C. Page LU-13, Section III.A.1 of the “Land Use Element” of the *2035 Kings County General Plan* states that the AX designation is applied around NAS Lemoore and its flight paths to reduce potential conflicts between military jet aircraft operations and surrounding land uses. Areas subject to potential military aircraft noise and safety issues are designated AX to reduce the number of residences and to preserve priority agricultural lands from encroachment by incompatible uses.

   D. Page LU-27, Section IV.B of the “Land Use Element” of the *2035 Kings County General Plan* states that Agricultural Open Space is the most extensive environmental category that displays the rural agricultural nature of the county. The agricultural land use designations (Limited Agriculture, General Agriculture 20 Acres, General Agriculture 40 Acres, and Exclusive Agriculture) are used to define distinct areas of agricultural intensity and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station. The physical development of agricultural properties is regulated and implemented by the Zoning Ordinance, in which the zone districts have the same designations: Limited Agriculture (AL-10), General Agriculture (AG-20 and AG-40), and Exclusive Agriculture (AX) are used. The minimum parcel size in the Exclusive Agriculture area is 40 acres. (Note: *Zoning Ordinance No. 269.69* was repealed and replaced when *Development Code No. 668* was adopted on March 3, 2015, and became effective on April 2, 2015.)

   E. Page LU-38, LU Goal B7 of the “Land Use Element” of the *2035 Kings County General Plan* states that community benefiting non-agricultural uses remain compatible within the County’s Agriculture Open Space area, and are supported for their continued operation and existence.
F. Page LU-38, LU Policy B7.1.3 of the “Land Use Element” of the 2035 Kings County General Plan states power generation facilities for commercial markets shall be allowed and regulated through the Conditional Use Permit approval process, and include thermal, wind, and solar photovoltaic electrical generating facilities that produce power. Hydroelectric and cogeneration facilities shall also be regulated as conditional uses except as follows (Kings County 2010):

(1) The installation of hydroelectric generating facilities, with a capacity of 5 MWs or less, in connection with existing dams, canals, and pipelines shall be regulated as permitted uses, subject to issuance of a site plan review that is categorically exempt pursuant to Section 15328 of the CEQA Guidelines.

(2) The installation of cogeneration equipment with a capacity of 50 MWs or less at existing facilities shall be regulated as permitted uses, subject to issuance of a site plan review which is categorically exempt pursuant to Section 15329 of the CEQA Guidelines.

G. Page RC-50, RC Objective G1.2 of the “Resource Conservation Element” of the 2035 Kings County General Plan seeks to promote the development of sustainable and renewable alternative energy sources, including wind, solar, hydroelectric and biomass energy.

H. Page RC-50, RC Policy G1.2.2 of the “Resource Conservation Element” of the 2035 Kings County General Plan encourages and supports efforts to develop commercial alternative energy sources in lower priority agricultural lands within Kings County, when appropriately sited.

I. Page RC-50, RC Policy G1.2.4 of the “Resource Conservation Element” of the 2035 Kings County General Plan establishes the requirement to coordinate the siting of alternative energy facilities within the Exclusive Agriculture (AX) Zone District with the Naval Air Station Lemoore to ensure such facilities will not have the potential to create a hazard for aircraft (e.g. reflective solar panels).

As discussed in the IS/MND, the PV solar panels installed at the Aquamarine project site would not produce light or glare that would pose a hazard to flight operations at NAS Lemoore.

J. Page RC-51, RC Policy G1.2.7 of the “Resource Conservation Element” of the 2035 Kings County General Plan requires commercial solar and wind energy systems to be reviewed as a conditional use permit pursuant to the procedures of the Kings County Zoning Ordinance. It should be noted that the Kings County Zoning Ordinance has been replaced by the Kings County Development Code (Ordinance No. 668), which was adopted by the Kings County Board of Supervisors on March 3, 2015, and became effective on April 2, 2015.

2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the California Environmental Quality Act (CEQA).

Finding: Approval of Conditional Use Permit No. 17-04 (Westlands Aquamarine Solar, LLC) is in compliance with the requirements of the California Environmental Quality Act (CEQA). The proposed use should not be detrimental to public health and safety, or materially injurious to
properties in the vicinity. An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for this project. The proposed project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring & Reporting Program (MMRP) attached to the Planning Commission Resolution for this project as Exhibit “A.” The IS/MND reflects the Planning Commission’s independent judgment and analysis.

3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.

**Finding:** The IS/MND did not identify any potentially significant environmental effects that cannot be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-02.

4. The proposed conditional use complies with all applicable standards and provisions of the Kings County Development Code and the purposes of the district in which the site is located.

**Finding:** Article 4, Section 407, Table 4-1, lists commercial solar photovoltaic electrical generating facilities as a conditional use within the Exclusive Agriculture 40-Acre and General Agriculture 40-Acre Zoning Districts, subject to Planning Commission approval.

Article 11, Section 1112, Alternative Energy Systems, identifies the following standards for commercial solar electric generating systems in Agriculture Zoning Districts:

a. The proposed site shall be located in an area a designated as either “Very Low Priority,” “Low Priority,” or “Low-Medium Priority” land according to Figure RC-13 Priority Agricultural Land (2035 Kings County General Plan, Resource Conservation Element, Page RC-20). “Medium Priority” land may be considered when comparable agricultural operations are integrated, the standard mitigation requirement is applied, or combination thereof.

1) As shown Figure RC-13 *Priority Agricultural Land* of the 2035 Kings County General Plan, the project site is shown as consisting of Very Low Priority, Low Priority, and Medium-Low Priority Agricultural Land. The project would temporarily affect the land uses of approximately 872 acres of Low-Medium Priority Agricultural Lands for up to 50 years. (Note: This area corresponds to the area mapped as “Farmland of Statewide Importance” on the most recent “Kings County Important Farmlands Map” prepared by the Farmland Mapping and Monitoring Program of the California Department of Conservation in 2016.) In consideration the cumulative effects of agricultural land conversion, the project could have a significant impact if the site were taken out of agricultural production permanently. MM AG-1, MM AG-2, and MM AG-3 would reduce this impact by ensuring that agricultural uses are maintained during operation of the project, and that the agricultural viability of the parcels is maintained after
decommissioning. With the implementation of these measures, potentially significant cumulative impacts would not be cumulatively considerable.

b. The proposed site shall be located within 1 mile of an existing 60 kV or higher utility electrical line. Small community commercial solar projects (less than or equal to 3 MW) may be located more than 1 mile from a 60 kV or higher transmission line subject to the following findings:

1) The project site is located on low or very low priority farmland.
2) The project site is not restricted by a Williamson Act or Farmland Security Zone contract.
3) The project will connect to existing utility infrastructure without building new power lines.
4) The project will not result in any additional easements on agricultural land, other than access easements or easements within the public Right-of-Way.

The proposed project does not classify as a small community commercial project (less than or equal to 3 MW); therefore, the project shall be located within 1 mile of a 60 kV or greater transmission line. An existing 70 kV utility transmission line passes through the center of the project site alongside the 25th Avenue alignment. The proposed project is consistent with this requirement of the Code.

c. Agricultural mitigation shall be proposed for every acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance converted for a commercial solar facility. The agricultural mitigation shall preserve at a ratio of 1:1 an equal amount of agricultural acreage of equal or greater quality in a manner acceptable to the County for the life of the project. Agricultural mitigation on land designated “Medium-High” or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.

1) Approximately 872 acres (or 48 percent) of the project site is classified as Farmland of Statewide Importance. (The remaining lands on the project site are classified as Grazing Land). The project would not result in permanent conversion of the Farmland of Statewide Importance, which are entirely located west of the 25th Avenue alignment; rather, the applicant proposes to graze livestock (sheep) between and under the arrays and maintain this western portion of the site in agricultural uses. MM AG-1, MM AG-2, and MM AG-3 shall be implemented so that agricultural uses are maintained during operation of the project and that the agricultural viability of the parcels is maintained after decommissioning. MM AG-1 requires preparation of an Agricultural Management Plan which would outline the ongoing agricultural productivity for the life of the project. The Plan shall address measures in the event grazing is discontinued, which include canceling the existing Williamson Act and Farmland Security Zone Contracts, and providing mitigation at a ratio of 1:1 for the loss of Farmland of Statewide Importance (designated as Medium Priority Lands on the Aquamarine project site). With implementation of MM AG-1, MM AG-2, and MM AG-3, this finding would be satisfied.

d. The project shall include a reclamation plan and financial assurance acceptable to the County that ensures the return of the land to a farmable state after completion of the project life, and retains surface water rights.
1) A Soil Reclamation Plan, along with requisite financial assurances, is identified for this project in MM AG-2 and MM AG-3. With implementation of MM AG-2 and MM AG-3, this finding would be satisfied.

e. The project shall include a pest management plan and weed abatement plan to protect adjacent farmland from nuisances and disruption.

1) A pest management plan and weed abatement plan are conditions of approval. See Condition No. 17 below.

f. The project shall space internal access driveways per Kings County Fire Department standards.

1) Prior to issuance of the building permit, detailed site plans showing internal access driveways shall be prepared and provided to the Planning Division and Fire Department. The access driveways shall be maintained and completely surround the solar panels to allow access from any side or end. Access driveways shall not be less than 20 feet wide and shall provide vertical clearance of not less than 13 feet 6 inches. Detailed plans shall be provided for review and the applicant shall meet with the Fire Marshal in a timely manner upon request for clarification of any issues. Any deviation from these standards requires approval through the Fire Marshal. With implementation of the Conditions for the Conditional Use Permit, this finding would be satisfied.

g. The project shall include a solid waste management plan for site maintenance and disposal of trash and debris.

1) The applicant shall implement a Solid Waste Management Plan for this project. The non-hazardous waste generated during construction and operation shall be segregated on-site for recycling or disposal at a Class III landfill. Hazardous wastes generated during project construction and operation shall be either recycled or disposed of at a Class I disposal facility, as required. With implementation of Condition No. 18 listed below, this finding would be satisfied.

h. The project site shall not be located on Williamson Act or Farmland Security Zone contracted land, unless it meets the principles of compatibility under Government Code Section 51238.1.(a). Otherwise, the contract shall be proposed for cancellation.

1) The project applicant proposes to avoid conflict with the Williamson Act and Farmland Security Zone contracts by maintaining a use on the entire site that meets the principles of compatibility pursuant to Gov. Code Section 51238.1(a) and by maintaining reasonably foreseeable agricultural operations on the project site. MM AG-1, MM AG-2, and MM-AG-3 shall be implemented so that agricultural uses are maintained during operation of the project and that the agricultural viability of the contracted parcels is maintained after decommissioning. MM AG-1 requires preparation of an Agricultural Management Plan which would outline the ongoing agricultural productivity for the life of the project. The Plan shall address measures in the event grazing is discontinued, which include canceling the existing Williamson Act and Farmland Security Zone Contracts, and providing mitigation at a ratio of 1:1 for the loss of Farmland of
5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity.

**Finding:** The proposed use was subject to analysis pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines. An IS/MND was prepared and circulated for a 30-day public comment period. With incorporation of mitigation measures, the proposed use will not result in any of the significant effects which are objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity. In addition to mitigation measures adopted as part of the Mitigation Monitoring & Reporting Program (MMRP), other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance.

6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.

**Finding:** The proposed facility will not be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion. The proposed project would involve the construction, operation, maintenance and decommissioning of a solar photovoltaic power generating facility on approximately 1,825 acres of land. Hazardous materials would be handled in compliance with applicable laws and regulations regarding transport, handling, disposal, and storage. The Project would comply with federal and state regulations regarding the use, handling, disposal, recycling and reuse of PV cells. Lighting will be oriented and/or shielded to the interior of the site to prevent spillage onto nearby properties and rights-of-way. Solar glare would not impact flight paths or the air traffic control station. In addition, compliance with international, federal, state, and local regulations would ensure that there is a low potential for fires. The IS/MND did not identify any potentially significant environmental effects that cannot be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-02. Other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance. Parking areas and driveways will be surfaced and maintained per County standards (see Planning Division Requirement No. 8-10 below). The combination of site design, mitigation measures, and other conditions of approval will result in minimization or elimination of injurious effects.

7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.
**Finding:** The proposed project would include the installation of a septic tank and drain field system for the wastewater from the O&M Building that could be constructed. The septic system would require a permit from the Kings County Community Development Agency. Onsite septic system facilities would be installed in compliance with the California Building Code and Kings County Plumbing Code (Ordinance No. 567.4 Section 5-82). The system shall be designed by a qualified engineer (see Building Division Requirement No. 13 below).

8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.

**Finding:** This project, as described in the IS/MND, will be required to comply with all applicable regulations of the SJVAPCD, including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review). The construction resulting from this project could temporarily increase emissions of PM$_{10}$ and thus a condition of approval will require that the project shall comply with SJVAPCD Regulation VIII.

9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

**Finding:** Article 16, Section 1602.A.5 requires that site plans for commercial and industrial project be professionally drawn to a scale large enough to show all details clearly with full dimension. Site plans must include detail of the following: lot dimensions; setback measurements; all buildings and structures; yards and space between buildings; all walls, fences, and gates; off-street parking; property access; signs; loading; lighting; street dedications and improvements; landscaping; fire hydrants; on-site drainage; and any other data as required. The site plan meets all of the criteria required by Section 1602.A.5, such that the locations, sizes, and functions of all existing and proposed features can be ascertained.

**STATEMENT OF FINDINGS OF CONSISTENCY:**

1. **LAND CONSERVATION (WILLIAMSON) ACT FINDINGS:**

   A. Within the project site, there are a number of parcels that are subject to Williamson Act contracts or Farmland Security Zone contracts. On November 26, 2013, Kings County adopted Resolution No. 13-058 recognizing that certain land parcels within the County south of SR-198 and west of SR-41 (e.g., where the Project site is located) that are under Williamson Act (or Farmland Security Zone) contracts are limited in agricultural production due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens. Further, the Resolution provides that solar uses (solar farming) with dry farm seasonal grazing or similar commercial agricultural activity may be compatible uses under the Williamson Act as long as the applicant for such a project provides a soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, that the proposed concomitant commercial agricultural operation is a reasonably foreseeable use of the land (taking into account surface water availability, groundwater quality and availability, and soil conditions).

   The Soil and Water Analysis Report that was prepared for the Project (provided in Appendix A of the IS/MND) fulfills the requirements of Resolution No. 13-058 in demonstrating that poor soil and water quality, and insufficient supplies of surface and groundwater currently exist and that the
proposed concomitant commercial agricultural operation (solar facility and dry-farm seasonal sheep grazing) would be a reasonably foreseeable use of the land at the Project site. Consequently, because the Project site is located within an area covered under Resolution No. 13-058, has adequately demonstrated through the Soils and Water Analysis Report that poor soil and water quality exist, water supply is insufficient to support agricultural crops, and because the Project would allow for dry grazing and would require the preparation of a Soil Reclamation Plan and an updated Engineer’s Cost Estimate for financial assurances every 5 years, there would be no potential conflict or conversion of land under Williamson Act (or Farmland Security Zone) contracts.

2. FLOOD PLAIN FINDINGS:

   A. The site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0300C, dated June 16, 2009. There are no development restrictions associated with Area of Minimal Flood Hazard Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

3. AIRPORT COMPATIBILITY ZONE FINDINGS:

   A. The project site is not located within an Airport Compatibility Zone.

RECOMMENDATIONS:

It is recommended that the Commission approve Conditional Use Permit No. 17-04 as described above and adopt Resolution No. 19-02. Approval of this Resolution will:

1. Find that the proposed project may have significant adverse impacts on the environment and that those impacts can be mitigated to a less-than-significant level by implementing the Mitigation Monitoring & Reporting Program (MMRP) attached to the resolution as Exhibit “A,” and approve the Mitigated Negative Declaration.

2. Find that the project is consistent with the 2035 Kings County General Plan and the Kings County Development Code.

3. Approve the project with specified conditions of approval.

This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

This Conditional Use Permit shall lapse and shall become null and void three (3) years following the date on which the Conditional Use Permit became effective, unless prior to the expiration of three (3) years a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion of the site which was subject of the Conditional Use Permit application. A Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit’s expiration date.
For the information of the applicant, compliance with other adopted rules and regulations of any local or state regulatory agency shall be required by the Planning Commission. This includes but is not limited to the following:

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY – PLANNING DIVISION** Contact Chuck Kinney of the Kings County Community Development Agency – Planning Division at (559) 852-2674 regarding the following requirements:

1. All proposals of the applicant shall be conditions of approval if not mentioned herein.

2. The site plan for the project is approved in concept. However, it is understood that during the actual design of the project that either of the following minor alterations to the site plan may be necessary: 1) structural alterations; and/or 2) alterations to the location of structures. Any minor alterations shall comply with the following requirements:

   A. The site shall be developed in substantial compliance with the conceptually-approved site plan. Development of the site shall be considered substantially consistent with the approved conceptual site plan if any minor structural alteration is within ten (10) percent of the square footage shown on the conceptually approved site plan or up to a 2,500-square-foot increase in structural size, whichever is less, and the minor structural alteration complies with coverage standards.

   B. A minor alteration of the location of a structure shall be considered substantially consistent with the approved conceptual site plan if the new location of the structure complies with all setback requirements for the zone district that the project site is located in.

   C. Any minor alteration that would make it necessary to modify or change any condition of approval placed on the project would require resubmittal of the application to amend the approval of the Site Plan Review.

   D. No expansion of use, regardless of size, which would increase the projected scale of operations beyond the scope and nature described in this Conditional Use Permit application, will be allowed. Any expansion that is a substantial change from the conceptually-approved site plan will require either an amendment to the approved Conditional Use Permit or a new zoning permit.

3. The development shall comply with all regulations of Development Code No. 668.13, with particular reference to the Exclusive Agricultural (AX) Zone District standards and the General Agricultural (AG-40) Zone District standards contained in Article 4.

4. All signage must comply with Section 418.C of the *Kings County Development Code*. Signs shall be located outside of the public right-of-way and shall not be located within a traffic safety visibility area if over three (3) feet in height. Unless a different setback is specified for a particular zone district, the minimum setback distance for all signs over three (3) feet in height shall be ten (10) feet from property lines.

5. Any exterior lighting shall be hooded so as to be directed only on-site. Pursuant to Section 418.E of the *Kings County Development Code*, exterior lighting shall be designed to be compatible with the architectural and landscape design of the project.
A. All new proposed uses shall preserve the existing nighttime environment by ensuring that the outdoor lighting for the use is so arranged and/or hooded as to reflect light away from adjoining properties.

B. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses, and shall be hooded, shielded, and located to direct light pools downward and prevent glare.

C. To achieve the desired lighting level for parking and pedestrian areas, the use of more short, low intensity fixtures is encouraged over the use of a few tall fixtures that illuminate large areas.

6. Pursuant to Section 418.F of the **Kings County Development Code**, all property owners and residents in Kings County are highly encouraged to participate in resource conservation efforts to help preserve and conserve dwindling natural resources. All property owners proposing new development within the agricultural zoning districts are encouraged to implement the following resource conservation measures, as applicable, as part of their development proposals.

   A. Water Meters: The installation of water meters to encourage water conservation.

   B. Stormwater Drainage: The integration of onsite stormwater drainage features such as small catch basins, rain gardens, and landscape depression basins into site plans to increase the stormwater detention.

   C. Drought Tolerant Landscaping: The integration of drought tolerant landscaping and conservation fixtures with the structures to reduce the average per capita water use.

7. Parking shall be provided in accordance with Article 13, Table 13-1 of the **Kings County Development Code** and shall be installed in accordance with **Kings County Improvement Standards**. (Note: Accessible parking requirements are listed under Building Division Requirement Nos. 8 and 9 below.)

8. All drive approaches, parking areas, aisles, and driveways shall be provided prior to either: 1) initial occupancy of the site; or 2) the final inspection.

9. Pursuant to Section 303.G of the **Kings County Improvement Standards** the parking area at the O&M building shall be surfaced and maintained so as to provide a durable, dustless surface. Section 303.G. and Drawing 3036 of the **Kings County Improvement Standards** requires two (2) inches of Type “B” Asphalt Concrete over four (4) inches of Class 2 aggregate base over six (6) inches of R-50 Native @ 95% compaction under the “Heavy Use conditions”. All other parking areas, aisles, and driveways shall be surfaced and maintained so as to provide a durable, dustless surface pursuant to the “Rural Alternative”. Section 303.G. and Drawing 3036 of the **Kings County Improvement Standards** requires Cutback Asphalt over four (4) inches of Decomposed Granite under the “Rural Alternative.” (Note: The Kings County Planning Commission hereby reserves the right to require additional improvements to the parking area and driveway if at any time in the future the decomposed granite surface deteriorates and either a dust problem is created due vehicles driving on the decomposed granite surface, or a mud problem is created due to vehicles tracking mud onto County Roads.)
10. Accessible parking spaces shall be located so as to minimize the travel distance to the use's primary entrances for access. Required off street accessible parking spaces, and standards for those spaces, shall meet state standards.

11. Pursuant to Article 4, Section 418.B.5 of the Kings County Development Code the following are required for landscaping in Agricultural Zoning District:

A. In all Agricultural Zoning Districts, as stated in Article 15, all new construction and rehabilitated landscape projects installed after January 1, 2010 are subject to and shall comply with the “California Model Water Efficient Landscape Ordinance”.

12. Pursuant to Section 418.B of the Kings County Development Code, the project shall comply with the following requirements pertaining to fencing and gates:

**Fences, Walls, and Hedges** exceeding six feet in height shall be permitted except that fences, walls, and hedges shall not exceed three feet in height within a Traffic Safety Visibility Area as defined in Article 25 of this Development Code.

**Gates** shall be permitted as follows:

A. Gates which are used for the primary vehicular ingress and egress and which are opened and closed manually shall be setback so that the greater of the following distances are met from the property line being used for access:

1) A minimum distance of 20 feet.

2) A distance sufficient to ensure that vehicles used for a permitted use requiring a Site Plan Review or Conditional Use permit are able to pull completely onto their property.

B. Gates used for the primary vehicular ingress and egress and which are opened and closed electronically with a remote control may be located within any portion of the property being used for access to a driveway provided that:

1) The property owner/occupant shall obtain a building permit from the building department for the installation of the electric gate operating mechanism and wiring. The property owner/occupant must also request and obtain a final inspection for the assigned building permit and demonstrate operation of the mechanism using the remote.

2) The gate must be operational at all times using a remote control device that allows the property owner/occupant to open and close the gate to enter the driveway area without exiting the vehicle.

3) At any time that the gate is not operational using the remote control device the gate must either be locked in the open position or it must be removed entirely.

C. Access gates to property which are not the primary vehicular ingress and egress such as an access gate to a rear yard to allow the parking of an RV, boat or similar use or for equipment
access to be used in maintenance of the property do not require additional setback from the property line. Secondary access gates shall have locking mechanisms accessible only from the interior side of the gate.

13. All open and unlandscaped portions of the lot shall be maintained in good condition, free from weeds, dust, trash and debris.

14. The minimum yard requirements from property line to a structure shall be as follows:

A. The minimum front yard setback for occupied structures shall be not less than fifty (50) feet from the public road right-of-way line or the property line if not fronting on a public road right-of-way. The minimum front yard setback for non-occupied uses shall be not less than thirty-five (35) feet from the public road right-of-way or property line if not fronting on a public road right-of-way.

B. The minimum side yard setback shall be ten (10) feet from the side property line for interior sites. The minimum side yard setback shall be twenty (20) feet from the public road right-of-way line on the street side of a corner site.

C. The minimum rear yard setback shall be ten (10) feet from the rear property line.

15. The minimum distance between structures shall be ten (10) feet.

16. The applicant shall develop and submit a pest management plan and weed abatement plan to the Kings County Community Development Agency for review and approval which establishes set action thresholds, identify pests, specify prevention methods as a first course of action, specify control methods as a second course of action, and establish a quantitative performance goal of nuisance reduction to adjacent farmland. Rodenticide, if used, shall be selected and used in a manner that minimizes impacts to protected biological species.

17. The applicant shall develop and submit a Solid Waste Management Plan to the Kings County Community Development Agency for review and approval which establishes action items and specific control methods to ensure that: 1) The non-hazardous waste generated during construction and operation shall be segregated on-site for recycling or disposal at a Class III landfill; and 2) Hazardous wastes generated during project construction and operation shall be either recycled or disposed of at a Class I disposal facility, as required.

18. Prior to the issuance of a building permit, the applicant shall submit a Soil Reclamation Plan for review and approval by Community Development Agency staff, in accordance with MM AG-2.

19. Prior to the issuance of a building permit, the applicant shall post a performance bond or similar instrument to ensure completion of the activities under the Soil Reclamation Plan, in accordance with MM AG-3.

20. All mitigation measures in the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Plan that pertains to CUP No. 17-04 are adopted as conditions of this approval, and included in the Conditional Use Permit.
21. The weed abatement plan shall contain specific provisions to address Russian Thistle (also known as tumbleweed). The weed abatement plan shall also contain specific provisions requiring that weeds be addressed on an annual basis (prior to reaching maturity and prior to producing seeds) on the entire property that the project site is located on, the perimeter fence line, the area outside the perimeter fence to all adjacent property lines, and the area outside the perimeter fence to the adjacent County road shoulder.

22. The applicant shall comply with all requirements of, and obtain any necessary permits from, the San Joaquin Valley Air Pollution Control District (SJVAPCD). Questions concerning SJVAPCD requirements should be direct to Georgia Stewart at (559) 230-5937.

23. The applicant shall comply with all requirements of, and obtain any necessary permits from, the California Regional Water Quality Control Board (CRWQCB). Questions concerning CRWQCB requirements should be directed to David Sholes at (559) 445-6279.

24. The applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and Department of Environmental Health Services, and all other local and state regulatory agencies.

25. Pursuant to Section 14-38(d) of the *Kings County Code of Ordinances*, a “Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings” shall be signed, notarized, and recorded.

26. Pursuant to Section 66020(d)(1) of the *California Government Code*, the owner is hereby notified that the 90-day approval period in which the applicant may protest the imposition of fees, dedications, reservations, or other exactions, begins on the date that this resolution is adopted.

27. Sales, use, or transactions tax may apply to business activities on the site. The applicant may seek written advice regarding the application of tax to your particular business by writing to the nearest State Board of Equalization office. For general information, please call the Board of Equalization at 1-800-400-7115.

28. Within eight (8) days following the date of the decision of the Kings County Planning Commission, the decision may be appealed to the Kings County Board of Supervisors. The appeal shall be filed with the Clerk of the Board of Supervisors.

29. This Conditional Use Permit shall lapse and shall become null and void three (3) years following the date that the Conditional Use Permit became effective, unless prior to the expiration of three (3) years the proposed use has been established. A Conditional Use Permit involving construction shall lapse and shall become null and void three (3) years following the date that the Conditional Use Permit became effective, unless prior to the expiration of three (3) years a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application.

30. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit’s expiration date.
31. This approved conditional use permit shall run with the land and shall continue to be valid upon change of ownership of the site which was the subject of the Conditional Use Permit approval.

32. This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

OTHER STANDARDS AND REGULATIONS:

In addition to the above Development Code requirements, other standards and regulations affecting this project are listed below. These requirements are not part of this zoning approval. However, compliance is required by the departments and agencies listed below. Appeals for relief of these standards and regulations must be made through that department’s or agency’s procedures, not through the Development Code procedures.

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - BUILDING DIVISION Contact Darren Verdegaal at the Kings County Community Development Agency - Building Division at (559) 852-2683, regarding the following requirements:

1. Building permits must be obtained from the Building Division of the Kings County Community Development Agency for any structures, plumbing, electrical, or mechanical work.

2. Failure to obtain a building permit for any structure, prior to commencing construction, which requires a building permit, will result in the payment of a double fee. Payment of such double fee shall not relieve any person from fully complying with the requirements of Kings County Code of Ordinances, Chapter 5 in the execution of the work or from any other penalties prescribed therein.

3. A minimum of two (2) sets of plans and calculations signed by an architect or engineer licensed to practice in the State of California shall be required for all structures.

4. All special inspection reports shall be provided to the Building Division prior to requesting a final inspection.

5. The applicant is responsible for contacting the Building Division to request a final inspection of the structures prior to occupying the structures and prior to startup of the operation. No building or structure shall be used or occupied until the Building Division has issued a Certificate of Occupancy.

6. All drive approaches and durable dustless surfaces shall be installed prior to the final inspection and maintained as per County Standards.

7. If the facility will have employees on-site for maintenance of the system an accessible restroom shall be provided and shall comply with Section 1115B of the California Building Code. This may be accomplished by either construction of a permanent structure or use of a chemical toilet with a regular maintenance schedule.
8. Pursuant to Section 1129B of the California Building Code, one (1) van accessible parking space, allowing room for individuals in wheelchairs, on braces or crutches to get in and out of an automobile onto a level surface, suitable for wheeling and walking shall be provided. The parking space shall be 9 feet x 20 feet with an 8-foot wide loading and unloading aisle placed on the side opposite the driver’s side. The surfacing of the parking space, loading and unloading aisle and the accessible path from the space to the entrance of the building shall be either asphalt concrete or concrete.

9. The development shall comply with all applicable Americans with Disabilities Act (ADA) requirements, especially Section 1127B of the California Building Code, which states that site development and grading shall be designed to provide access to all entrances and exterior ground-floor exits, and access to normal paths of travel. The accessible route of travel shall be the most practical direct route between accessible building entrances, accessible site facilities and the accessible entrance to the site, including but not limited to access from the accessible parking space to accessible building entrances.

10. A soils report, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

11. The facility shall meet the requirements of the State of California Model Water Efficient Landscape Ordinance. Landscape and irrigation plans shall be provided to the Community Development Agency for review and approval prior to building permit issuance.


13. A septic system design, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

14. School fees based on square footage of building shall be added to the cost of the building permit, unless the school district provides an exemption from the school fees.

15. The site, as well as the buildings, shall be made accessible and usable by the disabled according to the California Building Code Chapter 11B.

16. The tenant, lessee and/or owner are responsible for compliance with the Americans with Disabilities Act, ADA. By federal law, the facility shall be made accessible to the highest degree possible.

17. Public Facilities Impact Fees for the building shall be payable at the time of the issuance of the building permit.

KINGS COUNTY PUBLIC WORKS DEPARTMENT Contact Mike Hawkins of the Kings County Public Works Department at (559) 852-2708 regarding the following requirements:

1. All requirements required hereafter shall conform to the Kings County Improvement Standards.
2. All other alternatives to Public Works requirements must be approved by the Kings County Public Works Department.

3. That access to the site from a public road must be provided, and must be approved by the Kings County Public Works Department.

4. The applicant shall obtain an encroachment permit from the Kings County Public Works Department.

5. Drive approaches shall be constructed in accordance with Section 205 of the Kings County Improvement Standards and shall be 2.5” of asphalt concrete over 10 inches of Class 2 Base Rock from the edge of roadway to the gate.

6. Durable and dustless surfacing shall be constructed for all roads constructed on site.

7. The fence shall be placed outside of the County right-of-way not closer than 1 foot to the right of way line.

8. No private overhead lines shall be placed within the right-of-way.

9. Gates at access points shall be indented per the Kings County Development Code.

10. Applicant/Owner shall maintain fence line and adjacent County road shoulder in a weed free condition.

11. All drainage shall be contained on-site in accordance with Section 404-C.

12. Provide a 4000 Kelvin, 120 or 139 watt LED Street light on standard wood pole to be maintained and paid for by applicant at entrance to site.

13. Drive approach shall be constructed so as storm drainage shall flow towards property.

14. Developer shall provide a 100% Performance Bond for work done in the right-of-way when the value of the work is $10,000 or more, except when a) the work consists of only a drive approach or b) the work is covered under a subdivision improvement agreement. The value of the work will be determined by an Engineer’s Estimate provided by the developer’s engineer, and approved by the County. Said bond will be provided on a form approved by the County and submitted prior to the granting of a building permit.

15. Patch any potholes and repair any edge pavement failures or road shoulder damage that is a result of the project construction/decommissioning phase as directed by the County Public Works.

16. Design and construct all improvements necessary to provide for the safe travel of traffic on Avenal-Cutoff Rd. and Laurel Avenue. Primary concerns shall include the mitigation of thru traffic and vehicles turning left or right off of Avenal Cutoff Rd. and Laurel Ave. into solar site during the constructions/decommissioning phase. Submit engineered improvement drawings for this work to the Public Works Department for review.
KINGS COUNTY FIRE DEPARTMENT  Contact Rick Levy of the Kings County Fire Department at (559) 852-2885 regarding the following requirements:

1. Life safety and fire suppression access roads shall be not less than 20 feet in width around the perimeter of the site and shall include interior fire access roads not less than 20 feet in width that are spaced so that there is not greater than 400 feet in separation between fire access roads on the interior of the site. Life safety and fire suppression access roads shall be designed, engineered, and maintained to be an all-weather surface capable of supporting the imposed loads of a sixty-five thousand (65,000) pound fire apparatus. Fire apparatus roads shall have a maximum grade of 12 percent. The engineered designs shall be reviewed by the Kings County Public Works Department and approved by the Kings County Fire Department. Grades may be increased under special circumstances when approved by the Kings County Fire Department. There shall be an unobstructed vertical clearance of 13 feet 6 inches above all life safety and fire suppression access. If the access road is a dead end road, a 50 foot radius at the end of the road or other Fire Department approved turn around will need to be constructed.

- In Lieu of installing and maintaining life safety and fire suppression access roads as well as interior fire access roads, the developer may provide funds (prior to the commencement of grading for the project or any materials being brought to the project site) sufficient for the Kings County Fire Department to purchase an all-terrain firefighting vehicle the model, final cost, conditions and equipment of which shall be approved by the Kings County Fire Department, if the project is designed so that solar panels are grouped into blocks and includes an unobstructed setback of 20 feet between grouped blocks and the grouped blocks are not greater than 400 feet in distance on the interior of the site.

2. There shall be a minimum of 4 feet of separation between rows to allow access for fire suppression personnel.

3. Any fire suppression systems will need to meet all applicable State and Kings County Fire Department requirements.

4. The fire protection system, including fixed and portable extinguishing systems must be up to date on required annual fire inspections and tests and be approved by the Kings County Fire Department.

5. The Fire Department requires a supply of firefighting water available in a storage tank(s) on site. The amount of water required and any required connections shall be in accordance with NFPA 1142 and the Kings County Fire Department. The tank shall be equipped with a pressure system and float valve device to keep the tank full at all.

6. Four-inch reflective address numbers at the main street side entrance shall be installed pursuant to Section 505.1 of the California Fire Code.

7. Where gates are provided, a means of Fire Department entry shall be provided. Manual gates shall have a Fire Department Knox key lock provided. Powered gates shall be provided with a Fire Department Knox access override system. Gates shall open inward and gate entrances shall be 4 feet wider than the lane serving the gate and be located a minimum of 30 feet from the roadway to
allow a vehicle to stop without obstructing traffic. A Knox pad lock shall be placed on chained gates or Knox box with gate access keys mounted at the main entrance for Fire Department access.

8. There will be a minimum rated 4A60BC Fire Extinguisher located at **each** inverter pad and transformer pad, mounted on a bollard protected from the weather or in a cabinet. All extinguishers shall be mounted with securely fastened hangers so that the weight of the extinguisher is adequately supported, and at a height compliant with the California Fire Code. Additional extinguishers may be required based upon special hazards or conditions. These extinguishers must be maintained per California Fire Code.

9. Employees shall be familiar with the use of fire safety equipment.

10. The solar field shall be kept clear of combustible weeds and debris.

11. Subject to Fire Marshal approval, Applicant shall provide training for fire personnel to be able to interrupt electrical power safely for emergency incidents requiring fire suppression or rescue activities.

12. All plans shall comply with the California Fire Code and all regulations of the Kings County Fire Department.

13. Facilities having a gross building area of more than 62,000 square feet shall be provided with two separate and approved Life safety and fire suppression access roads/entrances. It should be noted that if the developer chooses to fund the purchase of an all-terrain firefighting vehicle this requirement is still needed since due to the size of the structure more than one firefighting vehicle would be needed.

14. Any future development must comply with applicable Fire Code, including rural firefighting water supply requirements.

15. Project must comply with Kings County Fire Department Guidelines for Photovoltaic Solar Sites.

16. Fire Department reserves the right to amend existing comments or requirements or add additional comments or requirements depending upon the hazards involved with the project.

**KINGS COUNTY HEALTH DEPARTMENT** Contact Troy Hommerding of the Kings County Department of Environmental Health Services at (559) 852-2627 regarding the following requirements:

1. A public drinking water permit is required for facilities that meet the definition of a small public water systems as per Section 116275 of the California Safe Drinking Water Act which is contained in Part 12, Chapter 4 of the California Health and Safety Code. Facilities that serve 5 or more residential units or provide water to 25 or more people for 60 or more days per year fall under this requirement. A completed and approved application with technical report is required by the Kings County Department of Public Health – Division of Environmental Health Services and the State Water Regional Control Board prior to operating a public water system. However, prior to submitting an application package the proponent shall consider Section 116527 of the Health
and Safety Code, and Section 106.4 to the Water Code, relating to drinking water. Please contact our office for further assistance at (559)584-1411.

2. Any plumbing fixtures, such as hand wash sinks, used by employees for personal use must have bacteriologically safe water. Sinks should be limited to handwashing only and should be posted with signage indicating that the water is suitable for washing and general cleaning, but not recommended for drinking. Bottled water or other potable source must be provided for drinking. If drinking water will be provided to 25 employees or more for 60 days or more over a calendar year, then the facility may require a public water system permit from our office. Portable toilets must be serviced at an adequate frequency so as not to create nuisance conditions.

3. Three copies of engineered construction plans for the septic system, including percolation test results, must be provided to our office for review and approval prior to construction. The application form is available at our website http://www.countyofkings.com/departments/health-welfare/environmental-health-services-1

4. If hazardous materials will remain on site in quantities equal to or greater than 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas, then the facility will be required to file and maintain a Hazardous Materials Business Plan with our office. Applicable forms are available at our website at www.countyofkings.com/health/ehs. Any hazardous wastes generated on site must be managed appropriately.

5. Any quantities of hazardous wastes generated by the facility operation must be managed in accordance with Federal, State, and local laws and regulations. Hazardous wastes cannot be disposed of into the municipal waste stream or onsite sewage disposal system. The owner/operator must contact our office with any questions regarding proper management and reporting of hazardous wastes associated with this operation.

6. Given the proximity of NAS Lemoore and frequent air traffic over the site, as well as adjacent highway and road traffic, the site must be designed and constructed so as to minimize light reflectivity that might be hazardous for aircraft or vehicles.

7. As per the Kings County Public Health Officer, *Coccidiodes immitii*, the fungus that causes valley fever, a serious and potentially long-term respiratory illness, is endemic in the soils of Kings County. Construction activities that disturb soils containing the spores of the fungus can put workers and the nearby public at risk. Effective dust control must be maintained on the job site at all times in order to reduce the risk of valley fever to workers and nearby residents. More information regarding the prevention of work related valley fever is available at www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf and http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf. Contact the San Joaquin Valley Air Pollution Control District for more information on dust control techniques.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT: Contact Georgia Stewart of the SJVAPCD at (559) 230-5800 concerning the following requirements.

1. The applicant shall comply with all San Joaquin Valley Air Pollution Control District regulations including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review) and Regulation VIII.
PREPARATION:

Prepared by the Kings County Community Development Agency (Chuck Kinney) on September 5, 2019. Copies are available for review at the Kings County Community Development Agency, 1400 W. Lacey Blvd., Government Center, Hanford, California 93230 or at the Kings County Clerk's Office, Government Center, Hanford, California.
COMMENT LETTERS AND RESPONSES TO COMMENTS

Introduction

This section provides responses to substantive comments received on the IS/MND. The individual comment items are numbered in the margins of the comment letters, with the corresponding responses appearing on the following pages. To facilitate cross-referencing, each comment has an alpha-numeric identification corresponding to the comment letter and the item number. The identification codes for the commenters are listed below.

SCH = Governor’s Office of Planning and Research – State Clearinghouse and Planning Unit
CT = California Department of Transportation (Caltrans), District 6
FRE1 = County of Fresno Department of Public Works and Planning
FRE2 = County of Fresno Development Services and Capital Projects Division, Current Planning Unit
June 18, 2019

Chuck Kinney
Kings County
1400 W. Lacey Blvd.
Hanford, CA 93230

Subject: Aquamarine Solar Project and Gen-Tie Line
SCH#: 2019059082

Dear Chuck Kinney:

The State Clearinghouse submitted the above named MND to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on 6/17/2019, and the comments from the responding agency (ies) is (are) available on the CEQA database for your retrieval and use. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project’s ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

“A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation.”

Check the CEQA database for submitted comments for use in preparing your final environmental document: https://ceqanet.opr.ca.gov/2019059082/2. Should you need more information or clarification of the comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

cc: Resources Agency
SCH. RESPONSES TO COMMENTS FROM THE GOVERNOR’S OFFICE OF PLANNING AND RESEARCH, STATE CLEARINGHOUSE AND PLANNING UNIT, DATED JUNE 18, 2019

Comment SCH-1

Transmittal Letter: This is a standard form letter sent to the Kings County at the close of the agency review period for the IS/MND. It indicates that Kings County has complied with the State Clearinghouse review requirements for environmental documents. Attached to the transmission letter from SCH was the comment letter from the California Department of Transportation (Caltrans), District 6, which follows.

Response SCH-1

Transmittal letter received. No further response is required.
June 17, 2019

STATE CLEARINGHOUSE

Chuck Kinney
Kings County
1400 W Lacey Boulevard
Hanford, CA 93230

Dear Mr. Kinney:

Thank you for the opportunity to review the Mitigated Negative Declaration for the proposal to build an 1,825-acre solar project that will generate 250 MW of electricity with a 230-kV substation. The project site is located south of State Route (SR) 198 and Avenal Cutoff Road, and west of SR 41, in the City of Lemoore.

The mission of the California Department of Transportation (Caltrans) is to provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

Caltrans provides the following comments consistent with the State’s smart mobility goals that support a vibrant economy and sustainable communities:

1. The State facilities that will be serving this project will be SR 41, SR 198, SR 269, and Interstate 5. No direct access to State facilities is allowed and it is expected that local access served will be through Avenal Cutoff Road, Laurel Avenue, and Nevada Avenue.

2. The project will generate the greatest volume of traffic during the construction phases when workers are onsite during preparation, grading, panel installation, and electrical equipment installation for the project. Project workers are expected to arrive to the site at 7 AM and depart by 5 PM.

3. Caltrans requests that truck/equipment trips be restricted to off-peak hours of 9 AM to 4 PM.

If you have any further questions, contact Scott Lau at (559) 445-5763 or scott.lau@dot.ca.gov.

Sincerely,

LORENA MENDIBLES, Chief
Transportation Planning - South

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability"
CT. RESPONSES TO COMMENT LETTER FROM CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS), DISTRICT 6, DATED JUNE 17, 2019

The comment letter from Caltrans District 6 begins with the first paragraph describing the project and the second paragraph stating Caltrans mission statement including the encouragement of early consultation and coordination on development projects utilizing the State’s transportation network. These general statements do not comprise specific comments on the IS/MND and therefore do not require responses. The substantive comments below are taken verbatim from the Caltrans comment letter.

Comment CT-1

The State facilities that will be serving this project will be SR 41, SR 198, SR 269, and Interstate 5. No direct access to State facilities is allowed and it is expected that local access served will be through Avenal Cutoff Road, Laurel Avenue, and Nevada Avenue.

Response CT-1

The Aquamarine Solar Project has direct access to Avenal Cutoff Road and Laurel Avenue, which are both Kings County Roads. There are no State highways in the immediate project vicinity, with the nearest State Highway being SR 41 located 1.2 miles to the southeast. Therefore, the project will not have direct access to a State facility.

Comment CT-2

The project will generate the greatest volume of traffic during the construction phases when workers are onsite during preparation, grading, panel installation, and electrical equipment installation for the project. Project workers are expected to arrive to the site at 7 AM and depart by 5 PM.

Response CT-2

This comment paraphrases the MND (at page 214), which states: “[c]onstruction workers would arrive at the site prior to the 7 AM start time and depart the site between 3 and 4 PM. As such, few if any workers are expected to be on the roadway network between the peak commute periods of 7 to 9 AM or 4 to 6 PM.” No further response is required.

Comment CT-3

Caltrans requests that truck/equipment trips be restricted to off-peak hours of 9 AM to 4 PM.

Response CT-3

The timing restriction on project construction traffic is stipulated in Mitigation Measure TR-1a (at IS/MND page 223), which includes the following requirement:
“iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM).”

The timing restriction on construction traffic as stipulated in the above Mitigation Measure matches the requested restriction in Caltrans’ comment. No further response is required.
June 12, 2019

Chuck Kinney
Kings County Community Development Agency
Kings County Government Center, Engineering Bldg. 6
1400 W. Lacey Blvd.
Hanford, CA 93230

SUBJECT: Conditional Use Permit No. 17-04 (Westlands Aquamarine)

Dear Mr. Kinney:

The County of Fresno appreciates the opportunity to review and comment on the Conditional Use Permit being reviewed by the Kings County Community Development Agency. Based on the County's initial review, we offer the following comments:

Traffic and Transportation:

Due to the large volume of trucks during the construction period, and the potential of trucks utilizing Gale and Jayne Avenues to access the site, the Fresno County Road Maintenance and Operations Division believes that transportation analysis is necessary to determine whether or not this project will result in any impacts to Fresno County roads. Such analysis should include a study of impacts to the roadway structural section, which should be based upon the anticipated change in the traffic index, based on the type of truck traffic that will occur.

Any questions regarding transportation-related concerns should be directed to the Fresno County Road Maintenance and Operations Division at (559) 600-4268.

If you have any questions regarding the information in this letter, you may also contact me at (559) 600-9669 or dacrider@fresnoca.gov.

Sincerely,

Danielle Crider, Planner
Development Services and Capital Projects Division

DTC:ksn
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cc. Marianne Mollling, Development Services and Capital Projects Division
Enrique Rodriguez, Jr., Road Maintenance and Operations Division
FRE1. RESPONSE TO COMMENT LETTER FROM COUNTY OF FRESNO DEPARTMENT OF PUBLIC WORKS AND PLANNING, DATED JUNE 12, 2019

The substantive comments on the IS/MND from the first comment letter from Fresno County are reproduced in full below.

Comment FRE1-1

Traffic and Transportation: Due to the large volume of trucks during the construction period, and the potential of trucks utilizing Gale and Jayne Avenues to access the site, the Fresno County Road Maintenance and Operations Division believes that transportation analysis is necessary to determine whether or not this project will result in any impacts to Fresno County roads. Such analysis should include a study of impacts to the roadway structural section, which should be based upon the anticipated change in the traffic index, based on the type of truck traffic that will occur.

Response FRE1-1

The Transportation analysis in the MND (at page 216) showed that Levels of Service on the potentially affected Fresno County roadway segments of Jayne Avenue would remain at their current LOS B or C with the addition of project construction traffic. Thus the County’s minimum LOS C requirement for roadways in this rural setting would be maintained and no operational impact to Jayne Avenue would occur, even temporarily, as a result of project construction traffic. The potential volume of construction traffic that would utilize Gale Avenue would be minimal.

With respect to the potential wear and tear on Fresno County roadways resulting from heavy truck traffic generated during project construction, Kings County and the project applicant are engaged in ongoing efforts with Fresno County staff to address this issue. The applicant has retained a qualified transportation engineer to conduct a study of potential effects of project construction traffic on Fresno County Roads. The conclusions and recommendations of the engineering study will form the basis for determining specific roadway improvements that are attributable to the project, if any. The remedial work to the roadway(s) to be performed by the applicant will comprise such improvements as are mutually agreed to by Kings County, Fresno County, and the applicant.
DATE: June 13, 2019

TO: Danielle Crider, Planner
Development Services and Capital Projects Division, Current Planning Unit

FROM: Derek Chambers, Planner
Development Services and Capital Projects Division, Policy Planning Unit

SUBJECT: Outside Agency Review (OAR) – Kings County, Conditional Use Permit (CUP) Application No. 17-04

The proposed 1,825-acre photovoltaic solar power generation facility subject to this Outside Agency Review (OAR) is located within Kings County.

The interconnection power lines (gen-tie lines) proposed to connect the solar facility with the utility power grid would be constructed within Fresno County; however, that project will be separately analyzed through Fresno County Unclassified Conditional Use Permit (UCUP) Application No. 3650 and associated Initial Study (IS) Application No. 7635.

Although the proposed solar facility would be located within Kings County, transmission of electricity from the proposed solar facility to the existing Gates substation located near the City of Huron will require approval of an Unclassified Conditional Use Permit (UCUP), which is a discretionary land use application that may or may not be approved. Therefore, Westlands Solar Park (developer) is advised to seek an alternative substation within the boundaries of Kings County capable of receiving electricity produced by the proposed solar facility in case the Fresno County UCUP for the gen-tie lines is denied.

If you have any questions, please email me at dchambers@fresnocountyca.gov or call me at (559) 600-4205.
The substantive comments on the MND from the Fresno County Policy Planning Unit letter are reproduced in full below.

Comment FRE2-1

The interconnection power lines (gen-tie lines) proposed to connect the solar facility with the utility power grid would be constructed within Fresno County; however, that project will be separately analyzed through Fresno County Unclassified Conditional Use Permit (UCUP) Application No. 3650 and associated Initial Study (IS) Application No. 7635.

Response FRE2-1

Comment acknowledged. To clarify, the entire gen-tie line connecting the Aquamarine Solar Project with the Gates Substation will be 15 miles long, of which 6.3 miles are within Fresno County and 8.7 miles are within Kings County. The Fresno County portion of the gen-tie is subject to Fresno County UCUP Application No. 3650, as mentioned in the comment. The Kings County portion is subject to Kings County CUP Application No. 17-04 for the Aquamarine Solar Project and Gen-Tie Line. Both the Fresno County and Kings County segments of the Gen-Tie Line received program level CEQA review in the Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which was certified by the Westlands Water District Board of Directors on January 16, 2018.

Comment FRE2-2

Although the proposed solar facility would be located within Kings County, transmission of electricity from the proposed solar facility to the existing Gates substation located near the City of Huron will require approval of an Unclassified Conditional Use Permit (UCUP), which is a discretionary land use application that may or may not be approved. Therefore, Westlands Solar Park (developer) is advised to seek an alternative substation within the boundaries of Kings County capable of receiving electricity produced by the proposed solar facility in case the Fresno County UCUP for the gen-tie lines is denied.

Response FRE2-2

Comment acknowledged. The Aquamarine Solar Project is planned to interconnect with the state electrical grid at the PG&E Gates Substation because that is the only substation in the area that is capable of receiving the quantity of solar power generated by the project. The only other possible alternative would be the PG&E Henrietta Substation located north of the Aquamarine project site on 25th Avenue north of Avenal Cutoff Road. However, the Henrietta Substation is at currently at capacity and further expansion of that substation is not feasible. As such, and based on information provided by PG&E and the California Independent System Operator (CAISO), that the only viable alternative is for the
project-generated electricity to be conveyed to the Gates Substation which can accommodate the additional generation from the project. This was confirmed by the CAISO which conducted a detailed interconnection study (IS) on the project, as it does for all proposed new generation facilities. The IS determined that the only feasible Point of Interconnection (POI) to the CAISO-controlled grid would be at the Gates Substation. Accordingly, the CAISO’s approval of the project’s interconnection to the grid requires that the interconnection is to occur at the Gates Substation; therefore, it is not possible for the project to change the interconnection location. Since the Gates Substation is located in Fresno County, the applicant has no alternative but to seek UCUP approval for the Fresno County segment of the gen-tie line from the County of Fresno.
This section contains revisions to the Initial Study/Mitigated Negative Declaration for the Aquamarine Solar Project and Gen-Tie Line. Double underlining depicts text added while strikeouts depict text removed.

4. ENVIRONMENTAL EVALUATION

4.2. AGRICULTURE AND FORESTRY RESOURCES

Environmental Evaluation

Page 67: REVISE item ‘a)’ as follows:

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Aquamarine Solar Project

Less-than-Significant Impact with Mitigation Incorporated. The portion of the Aquamarine project site located west of the 25th Avenue alignment (approximately 872 acres) is mapped as “Farmland of Statewide Importance,” and the portion of the project site located east of the 25th Avenue alignment (approximately 953 acres) is mapped as “Grazing Land,” under DOC’s Farmland Mapping and Monitoring Program (CDOC 2015). The Aquamarine Solar Project would occupy the site for a period of 25 years. During operation of the solar facility, the majority of the site area would be vegetated with native grasses. At the end of the productive life of the solar generating facility, the facility would be decommissioned.

Unless mitigated, the installation of the Aquamarine Solar project on the site would result in the conversion of 872 acres Farmland of Statewide Importance on the site (i.e., all of the lands located west of the 25th Avenue alignment) to non-agricultural uses. This would represent a significant impact to Farmland. The solar development of the portion of the project site located east of the 25th Avenue alignment (i.e., “Grazing Land”) would result in a less-than-significant impact on Farmland, and therefore that portion of the project site does not require mitigation for Farmland impacts.

However, it is possible that the 953 acres of “Grazing Land” in the easterly portion of the project site may be subject to re-enrollment under the Williamson Act in conjunction with project development. To explain why, it is important to know that these 953 acres were acquired by Westlands Water District in the early 2000s, in lieu of eminent domain, for the purpose of retiring these degraded farmlands from irrigated agriculture. Government Code Section 51295 provides that Williamson Act contracts on lands acquired by a public agency in lieu of eminent domain are deemed null and void at the time of acquisition. However, if these lands are later returned to private ownership, the same
Government Code provision requires that before returning the land to private ownership, the public agency shall give written notice to the Director of Conservation and the local governing body responsible for the administration of the preserve, and the land shall be reenrolled in a new contract or encumbered by an enforceable deed restriction with terms at least as restrictive as those provided by chapter 7 [51200-51295] of the California Government Code. If so, these lands would need to satisfy the Williamson Act Principles of Compatibility, which could be accomplished by implementing the same mitigation measures on these lands as are applicable to the 872 acres of “Farmland” within the project site. Therefore, the mitigation measures set forth below are applicable to the entire project site. (For a detailed discussion of the Williamson Act as it relates to this project, see item ‘b’ below.)

In order to reduce the project impacts to agricultural resources of the Aquamarine Solar Project site to less-than-significant levels, the following mitigation measures shall be implemented in the portion of the project site located west of the 25th Avenue alignment in conjunction with the solar development of that portion of the project site.

**Mitigation Measure AG-1: Agricultural Management Plan.** Prior to the issuance of a building permit, the applicant shall submit to Kings County an Agricultural Management Plan (AMP) that provides for the ongoing agricultural productivity of the 872-acre portion of the project site located west of the 25th Avenue alignment for the life of the project. The AMP shall specify that at least 90 percent of this area of the site shall be vegetated with grasses and forbs and shall be managed for dry farm seasonal sheep grazing. The AMP shall include specific provisions for soil preparation and revegetation including specifications for a seed mix which is appropriate to the soil and climatic conditions in the absence of irrigation, methods of avoiding invasive species, and a list of acceptable vegetation that meets the dietary needs of sheep. The AMP shall include detailed provisions to ensure the successful establishment of the planned vegetative cover, and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock and wildlife. The AMP shall also prescribe the management practices for sheep grazing. The AMP shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency. The AMP shall also comply with the requirements of the Kings County Development Code related to weed abatement and pest control. [Note: This MM would not be required to be implemented on the easterly 953 acres of the project site in the event that it is determined that re-enrollment of project lands not currently under Williamson Act contract is found not to be required under Government Code Section 51295.]

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**Page 69:** REVISE item ‘b’ as follows:

b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

Aquamarine Solar Project

Less-than-Significant Impact. The following discussion begins with a consideration of the Williamson Act, which is followed by a discussion of the applicable provisions of the Kings County Development Code, which constitutes the County’s zoning ordinance.
Williamson Act

Within the Aquamarine project site, the northwesterly 296.6 acres are under a Williamson Act Land Conservation Contract, and the remaining site area located west of 25th Avenue (574.6 acres) is subject to a Farmland Security Zone (FSZ) contract under the Williamson Act. (As discussed above, the remaining 953 acres in the easterly portion of the project site are treated herein “as if” they are under Williamson Act contracts because of the possibility that these lands may be required to be re-enrolled in the Williamson Act program in conjunction with this project.) The project applicant proposes to avoid conflict with the Williamson Act and FSZ contracts by maintaining a use on the site that meets the principles of compatibility pursuant to Government Code Section 51238.1(a) by maintaining reasonably foreseeable agricultural operations on the project site. This is discussed in detail below in terms of the applicable sections of the Government Code.

Page 71: REVISE first full paragraph, as follows:

As mentioned, only the 872-acre portion of the project site located west of the 25th Avenue alignment is subject to Williamson Act contracts, and therefore only that portion of the site is subject to the Williamson Act implementing procedures and guidance discussed above. The following is a point by point evaluation of the project’s consistency with the above County guidance with respect to the western portion of the project site.

Page 76: REVISE item ‘8’ as follows:

8. The project site is not located on Williamson Act or Farmland Security Zone contracted land, unless it meets the principles of compatibility under Government Code section 51238.1(a). Otherwise, the contract is proposed for cancellation or is eligible and converts to a Solar Easement.

Discussion. Within the project site, the northwesterly 296.6 acres are under a Williamson Act Land Conservation Contract, and the remaining site area located west of 25th Avenue (574.6 acres) is subject to a Farmland Security Zone (FSZ) contract under the Williamson Act. (In addition, the easterly 953 acres of the project site are treated herein “as if” they were subject to Williamson Act contracts.) However, as discussed in detail above, the proposed Aquamarine Solar Project would satisfy all of the Williamson Act principles of compatibility, as further defined by Resolution of the Kings County Board of Supervisors, for land use proposed for lands under Williamson Act contracts, including Farmland Security Zone contracts.
4.4. BIOLOGICAL RESOURCES

Environmental Evaluation

Pages 115-116: REVISE Mitigation Measure BIO-2 as follows:

Mitigation Measure BIO-2: Protection for Nesting Raptors and Migratory Birds. In order to minimize construction disturbance to active raptor and other migratory bird nests, the following measures shall be implemented in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

Pre-construction Surveys. If tree removal, site preparation, grading, or construction, is planned to occur within the breeding season (February 1 - August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests within 10 days of the onset of these activities. Pre-construction surveys shall be repeated if construction halts for more than 14 days. If construction activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.

Pages 117-118: REVISE Mitigation Measure BIO-3 as follows:

Mitigation Measure BIO-3: Burrowing Owl Protection. In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented, as necessary, in conjunction with the construction of the Aquamarine Solar Project and the Gen-Tie Line:

a. Pre-Construction Surveys. Pre-construction surveys shall be conducted by a qualified biologist no more than 10 days prior to the onset of ground-disturbing activity. Pre-construction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones.

b. Avoidance of Active Nests During Breeding Season. If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet with a radius of not less than 50 meters and not more than 500 meters shall be established around all active owl nests. The specific dimensions of the exclusion zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity. The buffer areas exclusion zones shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. Buffers These exclusion zones shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below.

c. Avoidance of Occupied Burrows During Non-Breeding Season, and Passive Relocation of Resident Owls. During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a
construction-free buffer with a radius of 250 feet not less than 50 meters and not more than 500 meters around each active burrow. The specific dimensions of the exclusion zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.

d. Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.

e. Mitigation for Loss of Burrowing Owl Habitat. If it is determined that burrowing owl nest(s) are located on or near the Aquamarine project site or Gen-Tie corridor, the biologist shall coordinate with the project applicant and resource agency to determine whether relocation of these nest(s) is unavoidable. If so, measure #1 below (off-site conservation easement) would apply. If the on-site or nearby nest(s) are to remain in place, the biologist shall determine whether sufficient foraging habitat is available on adjacent or nearby lands, and if so, no further mitigation is required. (Approximately 200 acres of year-round foraging habitat within about 2 miles of the burrowing owl burrow is required to support a burrowing owl pair.) If it is determined that there is insufficient nearby foraging habitat, the biologist shall determine the amount of on-site foraging habitat that is required to sustain the burrowing owl nest. In this case, the potential impact to foraging habitat shall be either avoided through implementation of measure #2 below (on-site buffer zone), or compensated through implementation of measure #1 (conservation easement) or measure #3 (long-term agreement on adjacent lands) below:

1) Establishment of a conservation easement with a 1:1 ratio for foraging/breeding habitat preservation. These easements would include habitats determined to be suitable for foraging and/or breeding year-round and seasonal use, and shall be implemented in accordance with the specifications contained in the CDFW “Staff Report on Burrowing Owl Mitigation” (2012).

2) Establishment of permanent buffer zones of adequate size around current burrowing owl locations. These buffer zones would require adequate management for the life of the project and buffer zones to ensure the buffer area remains suitable for burrowing owls. Annual monitoring of the suitability of management activities may be required by CDFW.

3) Short- or long-term compensation for foraging habitat by providing farmers in adjacent lands incentives to plant particular crops known to be suitable forage habitat for burrowing owls (i.e., winter wheat, alfalfa, etc.) and to enact a farmer burrowing owl safety program where farmers are trained how to reduce burrowing owl mortalities on their lands and farm roads. A 1:1 ratio would be required to be in the program as long as the project is active.
Mitigation Measure BIO-5: American Badger Mitigation. The following measures shall be implemented to minimize impacts to the American badger, as necessary, in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

a. Preconstruction Surveys for American Badger. During the course of pre-construction surveys prescribed for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of construction. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers would be warranted.

b. Avoidance of Active Badger Dens and Monitoring. If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction, a construction-free buffer of up to 300 feet shall be established around the den. Once the biologist has determined that the badger(s) have vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present on-site during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor shall be required on-site until it is determined that young are of an independent age and construction activities would not harm individual badgers.

c. Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if an American Badger is observed.

4.17. TRANSPORTATION

Environmental Evaluation

Mitigation Measure TR-1a: Traffic Safety Measures for Solar Project Construction. As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department regarding construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic. Traffic measures that shall be implemented during construction and decommissioning activities include the following:
a. Construction traffic shall not block emergency equipment routes.

b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following:
   i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods.
   ii. Identify approved truck routes for the transport of all construction- and decommissioning-related equipment and materials.
   iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM).
   iv. Provide for farm worker vehicle access and safe pedestrian and vehicle access.
   v. Provide advance warning and appropriate signage whenever road closures or detours are necessary.

c. Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour.

d. Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a report prepared by a qualified transportation engineer that addresses the potential wear and tear on Fresno County roads caused by construction traffic generated by the Aquamarine Solar Project. The specific roadway improvements, if any, which are attributable to project construction traffic, shall be determined based on the conclusions of the report and as mutually agreed upon by the Kings County Community Development Agency, the Fresno County Department of Public Works and Planning, and the applicant. The applicant shall implement the agreed-upon roadway improvements at such time as agreed upon by the parties.

Since the precise nature and timing of construction and decommissioning activities requiring the traffic safety measures set forth in Mitigation Measure TR-1 cannot be predicted as of this writing, the details of the traffic safety mitigations will be determined by the County Public Works Department at the such time as the activities for which they are required are scheduled and the applicant’s construction contractor requests consultation regarding such activities.

With regard to item ‘d’ above, this item recognizes the concern of County of Fresno that road surface conditions can affect the safety of traffic operations, and that deterioration of road surfaces may pose a safety issue. Accordingly, this item has been included by the Kings County Community Development Department to address this concern of the County of Fresno.
INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

AQUAMARINE SOLAR PROJECT
AND GEN-TIE LINE

CUP 17-04

Kings County Community Development Agency

May 2019
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<td>AADT</td>
<td>Annual Average Daily Traffic</td>
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<td>ADA</td>
<td>Americans with Disabilities Act</td>
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<tr>
<td>ADT</td>
<td>Average Daily Traffic</td>
</tr>
<tr>
<td>AF or af</td>
<td>acre-feet</td>
</tr>
<tr>
<td>AFY or afy</td>
<td>acre-feet per year</td>
</tr>
<tr>
<td>AMP</td>
<td>Agriculture Management Plan</td>
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<td>Assessor’s Parcel Number</td>
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<td>BMPs</td>
<td>best management practices</td>
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<td>CAP</td>
<td>Climate Action Plan</td>
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<td>California Department of Fish and Wildlife</td>
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<td>California Environmental Quality Act</td>
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<td>California Natural Diversity Data Base</td>
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<td>CNEL</td>
<td>community noise equivalent level</td>
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<td>CO2e</td>
<td>Carbon Dioxide Equivalents</td>
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<td>California Register of Historical Resources</td>
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<td>Central Valley Project</td>
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<td>Chemical Waste Management Landfill</td>
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<td>cy</td>
<td>cubic yards</td>
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<tr>
<td>dB</td>
<td>decibels</td>
</tr>
<tr>
<td>dBA</td>
<td>decibels in “A-weighted” scale</td>
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<tr>
<td>DC</td>
<td>direct current</td>
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<td>Department of Defense</td>
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<td>EIR</td>
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<td>FMMP</td>
<td>Farmland Mapping and Monitoring Program</td>
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<td>FSZ</td>
<td>Farmland Security Zone</td>
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<tr>
<td>g</td>
<td>gravity - unit of ground acceleration; 1.0 g = force of gravity</td>
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<td>GHG</td>
<td>greenhouse gas</td>
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<td>gpd</td>
<td>gallons per day</td>
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<td>Hazardous Materials Business Plan</td>
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<td>I&amp;R</td>
<td>Illingworth &amp; Rodkin</td>
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<tr>
<td>IS/MND</td>
<td>Initial Study/Mitigated Negative Declaration</td>
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<td>ISR</td>
<td>Indirect Source Review</td>
</tr>
<tr>
<td>JLUS</td>
<td>Joint Land Use Study (NAS Lemoore)</td>
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<td>Kings County Association of Governments</td>
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<td>Kings County Fire Department</td>
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<td>KCSF</td>
<td>Kings County Sheriff’s Department</td>
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<td>KCDEHS</td>
<td>Kings County Division of Environmental Health Services</td>
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<tr>
<td>kV</td>
<td>kilovolt (unit of electrical potential)</td>
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<td>Kings Waste and Recycling Authority</td>
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<tr>
<td>L&lt;sub&gt;dn&lt;/sub&gt;</td>
<td>day-night average noise level</td>
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<tr>
<td>L&lt;sub&gt;eq&lt;/sub&gt;</td>
<td>equivalent hourly average noise level</td>
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<tr>
<td>L&lt;sub&gt;max&lt;/sub&gt;</td>
<td>maximum instantaneous noise level</td>
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<td>Live Oak Associates</td>
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<td>LOS</td>
<td>Level of Service</td>
</tr>
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<td>M&amp;I</td>
<td>Municipal and Industrial (water supply)</td>
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<td>MBTA</td>
<td>Migratory Bird Treaty Act</td>
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<td>MM</td>
<td>Mitigation Measure</td>
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<td>MMT</td>
<td>Million Metric Tons</td>
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<td>Mitigated Negative Declaration</td>
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<td>Megawatt</td>
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<td>Naval Air Station Lemoore</td>
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<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
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<td>NOP</td>
<td>Notice of Preparation</td>
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<td>National Pollutant Discharge Elimination System</td>
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<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
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<td>National Register of Historic Places</td>
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<tr>
<td>O&amp;M</td>
<td>operations and maintenance</td>
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<tr>
<td>OPR</td>
<td>Governor’s Office of Planning and Research</td>
</tr>
<tr>
<td>PEIR</td>
<td>Program (or Programmatic) Environmental Impact Report</td>
</tr>
<tr>
<td>PG&amp;E</td>
<td>Pacific Gas and Electric Company</td>
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<tr>
<td>PPA</td>
<td>Power Purchase Agreement</td>
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<td>PPV</td>
<td>Peak Particle Velocity (vibration measure)</td>
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<td>PRC</td>
<td>California Public Resources Code</td>
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<td>PV</td>
<td>photovoltaic</td>
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<td>ROW</td>
<td>Right of Way</td>
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<td>RPS</td>
<td>Renewable Portfolio Standard</td>
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<td>SB</td>
<td>Senate Bill</td>
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<td>Supervisory Control and Data Acquisition</td>
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<td>SGF</td>
<td>Solar Generating Facility</td>
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<td>SHPO</td>
<td>State Historic Preservation Office</td>
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<td>San Joaquin Valley Air Pollution Control District</td>
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<td>SoCalGas</td>
<td>Southern California Gas Company</td>
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<td>SR</td>
<td>State Route</td>
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<tr>
<td>SSC</td>
<td>species of special concern</td>
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<td>State Water Project</td>
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<td>Storm Water Pollution Prevention Plan</td>
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<tr>
<td>SWRCB</td>
<td>State Water Resources Control Board</td>
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<tr>
<td>TCP</td>
<td>Traditional Cultural Place</td>
</tr>
<tr>
<td>TCR</td>
<td>Tribal Cultural Resource</td>
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<td>USA</td>
<td>Underground Service Alert</td>
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<tr>
<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<td>U.S. Environmental Protection Agency</td>
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<td>U.S. Fish and Wildlife Service</td>
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<td>U.S. Geological Survey</td>
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<td>VdB</td>
<td>vibration velocity level in decibels</td>
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<td>Vehicle Miles Traveled</td>
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<td>Westlands Water District</td>
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CHAPTER 1 – INTRODUCTION

1.1 PREPARATION OF AN IS/MND UNDER CEQA

This document is an Initial Study and Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA) for the proposed Aquamarine Solar Project and Gen-Tie Line. This MND has been prepared in accordance with the CEQA, Public Resources Code Sections 21000 et seq., and the State CEQA Guidelines.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the CEQA Guidelines, Section 15064, an Environmental Impact Report (EIR) must be prepared if the Initial Study indicates that the proposed project under review may have a potentially significant impact on the environment. A Negative Declaration may be prepared instead, if the lead agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and, therefore, why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

a) The Initial Study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or

b) The Initial Study identified potentially significant effects, but:

(1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.

If revisions are adopted into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration is prepared. This document includes such revisions in the form of mitigation measures. Therefore, this document is a Mitigated Negative Declaration and incorporates all of the elements of an Initial Study. Hereafter this document is referred to as an MND.

1.2 THIS MND IS TIERED FROM THE PROGRAM EIR ON THE WESTLANDS SOLAR PARK MASTER PLAN AND GEN-TIE CORRIDORS PLAN

The Aquamarine Solar Project is located within the Westlands Solar Park (WSP), a master planned solar complex covering approximately 20,938 acres in west-central Kings County. The WSP Master Plan and Gen-Tie Corridors Plan was prepared by the Westlands Water District (WWD) to provide policy guidance for the reuse of retired farmlands owned by WWD, which comprise approximately half of the Master Plan area. In compliance with State CEQA Guidelines Section 15168, the WWD prepared a Program EIR (PEIR) (SCH No. 2013031043) which addressed the potential environmental impacts associated with future solar development under the WSP Master Plan and Gen-Tie Corridors Plan. The PEIR also addressed the potential impacts associated with the planned gen-tie corridor extending from the WSP to the Gates substation to the west, which is required for the transmission of WSP solar generation to
the State electrical grid. On January 16, 2018, the WWD Board of Directors certified the PEIR under CEQA and approved the WSP Master Plan and Gen-Tie Corridors Plan as a WWD policy document.

The PEIR on the WSP Master Plan and Gen-Tie Corridors Plan (hereafter “WSP Master Plan PEIR”) was prepared in close coordination with the staff of the Kings County Community Development Agency (CDA), in recognition of the County’s role as a responsible agency for the approval of Conditional Use Permits (CUPs) for individual solar generating facilities (SGFs) to be developed within the WSP Master Plan area. This approach was intended by both WWD and Kings County CDA to provide for the tiering of subsequent MNDs from the PEIR, as provided under CEQA Guidelines Section 15168 (see “Tiering under CEQA” below for further discussion). The Draft PEIR incorporated all revisions requested by the Kings County CDA with the express purpose of making the PEIR consistent with County practices, and thus facilitating the ability of the Kings County Planning Commission to adopt subsequent MNDs that would be tiered from the certified PEIR. This would also enable the certified PEIR to be incorporated by reference into the subsequent MNDs prepared by Kings County (per CEQA Guidelines Section 15150), and would enable the Planning Commission’s consideration of the contents of the certified PEIR when adopting the subsequent MNDs for solar projects proposed within the WSP Master Plan area.

**Tiering under CEQA**

The concept of tiering is addressed in CEQA Guidelines Sections 15152 and 15168(c). “Tiering" refers to the coverage of general environmental matters in broad, program- or plan-level EIRs, such as the WSP Master Plan PEIR, with subsequent focused environmental documents prepared for individual projects that implement the program or plan. The project environmental document incorporates by reference the broader discussions in the Program EIR and concentrates on project-specific issues. The CEQA Statutes and the Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the Program EIR and by incorporating those analyses by reference.

The Program EIR evaluated the environmental impacts of the WSP Master Plan to the greatest extent possible. Tiering allows subsequent environmental review to rely on the WSP Master Plan PEIR for the following:

- A discussion of general background and setting information for environmental topic areas;
- Overall growth-related issues;
- Issues that were evaluated in sufficient detail in the Program EIR and for which there is no significant new information or change in circumstances that would require further analysis; and
- Long-term cumulative impacts.

Subsequent tiered environmental documents should incorporate relevant information from the WSP Master Plan PEIR including:

- A summary of background (setting information);
- Identification of applicable standards of significance; and
- Identification of applicable impacts and mitigation measures.
LEAD AGENCY

The WWD was the CEQA Lead Agency responsible for preparation and certification of the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan PEIR. As mentioned, Kings County is a Responsible Agency under CEQA for purposes of the PEIR since the County is responsible for the approval of Conditional Use Permits for individual solar projects proposed within the WSP Master Plan area. Since the planned Gen-Tie Line to the Gates Substation is intended to be privately owned, and therefore not subject to CPUC jurisdiction, Kings County will also be responsible for approval of the segment of the proposed Gen-Tie Line within Kings County as proposed under the subject Conditional Use Permit application.

Under CEQA Guidelines Section 15096(a), a Responsible Agency complies with CEQA by considering the EIR or MND prepared by the Lead Agency and by reaching its own conclusions on whether and how to approve the project involved. This provides for the Kings County Planning Commission’s consideration of the WSP Master Plan and Gen-Tie Corridors Plan PEIR in the course of its CEQA review of subsequent solar projects and gen-tie line covered by the PEIR.

Under CEQA Guidelines Section 15052, a Responsible Agency may assume the role of Lead Agency if it finds that further environmental documentation is required under CEQA in conjunction with a subsequent project-specific approval within its purview. This provides for Kings County’s preparation of a subsequent MND that is tiered from the Program EIR for purposes of CUP approval.

In summary, the CEQA Guidelines provide for Kings County’s preparation of an MND for the Aquamarine Solar Project and Gen-Tie Line, as a tiered and subsequent environmental document to the Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan. Under CEQA, Kings County may also incorporate by reference certain information and evaluation contained in the Program EIR that is applicable to the Aquamarine Solar Project and Gen-Tie Line, although the MND must include a summary of background/setting information, identification of standards of significance, and discussion of project-specific impacts and mitigation measures. The information and evaluation that is incorporated by reference is not required to be repeated or duplicated in the MND, provided the Planning Commission considers the contents of the Program EIR in making its decision to adopt the MND.
CHAPTER 2 – DESCRIPTION OF THE PROPOSED PROJECT

2.1 BACKGROUND INFORMATION

1. Project Title

Aquamarine Solar Project and Gen-Tie Line
Kings County Conditional Use Permit File No: CUP 17-04.

Assessor’s Parcel Nos:

<table>
<thead>
<tr>
<th>Section 9</th>
<th>Section 15</th>
<th>Section 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>026-010-057</td>
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</tr>
<tr>
<td></td>
<td>026-290-43</td>
<td>026-290-72</td>
</tr>
</tbody>
</table>

2. Lead Agency Name and Address

Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, CA 93230

3. Contact Person, Phone Number, and Email Address

Chuck Kinney, Deputy Director – Planning
559-852-2670
Chuck.Kinney@co.kings.ca.us

4. Project Location

The 1,825-acre Aquamarine Solar Project site is generally located to the southeast of Avenal Cutoff Road, and is centered on the junction of Laurel Avenue and the 25th Avenue alignment in central Kings County. The Gen-Tie Line is planned to run from the Aquamarine project site southward along the 25th Avenue alignment to Nevada Avenue, where it will turn west and run adjacent to the north side of Nevada Avenue to the Fresno County line (see Figure 1 – Regional Location, Figure 2 – Project Overview, and Figure 3 – Project Vicinity). The Gen-Tie Line will run entirely within easements acquired through private property alongside the County roadway right-of-way except where it crosses public roadways.
5. Project Sponsor’s Name and Address
Westlands Aquamarine, LLC
Robert G. Dowds, Manager
4700 Wilshire Boulevard
Los Angeles, CA 90010
Contact: Mohammed T. Kabir

6. General Plan Designation
The 2035 Kings County General Plan designates the eastern and northeastern 754 acres of the project site as “Exclusive Agriculture – 40 acre,” and the remaining 1,071 acres of the site as “General Agriculture – 40 acre.”

7. Zoning
The existing Kings County Zoning on the entire project site is “AG-40 General Agricultural-40.”
Avenal Cutoff Road
Nevada Avenue
Gale Ave
Laurel Ave
30th Ave
FRESNO COUNTY
KINGS COUNTY
Kings River
Project Overview
Figure 2
Source: Google Earth, 2018

Westlands Solar Park Projects (WSPH CUPs) (2018 & 2019)/Aquamarine (2019)/Project Overview 1 Alt (Fig 2) (L)

Gen-Tie Route
Alternative Gen-Tie Route

AQUAMARINE PROJECT
PROJECT SITE

Shannon Ranch
Stone Land Company Ranch
Nevada Avenue
Gale Ave
30th Ave
Source: Google Earth, 2018

Project Vicinity
Figure 3
2.2 PROJECT DESCRIPTION

INTRODUCTION AND OVERVIEW

Site Location and Description

The Aquamarine Solar Project will occupy an approximately 1,825-acre site generally located to the southeast of Avenal Cutoff Road, and centered on the junction of Laurel Avenue and the 25th Avenue alignment in Kings County. The project site includes the Assessor’s Parcel Numbers that are listed in the following table:

<table>
<thead>
<tr>
<th>Section 9</th>
<th>Section 15</th>
<th>Section 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>026-010-057</td>
<td>026-260-04</td>
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<td>026-290-27</td>
<td>026-290-32</td>
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<td>Section 14</td>
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</tr>
<tr>
<td>026-260-37</td>
<td>026-260-28</td>
<td>026-290-63</td>
</tr>
</tbody>
</table>

Within Section 16, there are 12 additional small parcels dispersed throughout the section that are owned by other individual landowners and are not included in the Aquamarine Solar Project. These “out-parcels” range in size from 1.25 acres to 10 acres, and collectively occupy 26.25 acres in total. As shown in Figure 4c, the planned internal driveway system within this area provides vehicular access to all parcels that do not have direct access to Laurel Avenue or the farm road that follows the 25th Avenue alignment. None of the internal driveways will encroach upon these out-parcels, and no fencing is planned along the common boundaries of these out-parcels and the adjacent lands within the Aquamarine Solar Project site such that there would be no impediment to owners gaining access to these out-parcels.

The northwesterly 297 acres of the Aquamarine project site are under Williamson Act and the northeasterly 281 acres of the site are under Farmland Security Zone. The remaining 1,247 acres located south of these parcels are not under any Williamson Act Contracts.

The Aquamarine project site is virtually level with elevations ranging from a high of 228 feet above mean sea level (amsl) at the southwest corner of the site to a low of 206 feet amsl at the southeast corner. The improved County roads providing access to the site include Laurel Avenue which bisects the site from east to west, and Avenal Cutoff Road, which runs along the northwest edge of the site. Most of the site is currently used for the cultivation of winter wheat during the wet season and is typically left fallow during the dry season. There are two active agricultural wells on the site, including one near the west site boundary, approximately 0.7 miles south of Avenal Cutoff Road, and another at the easternmost edge of the project site, just south of Laurel Avenue. The 70-kV Henrietta to Tulare Lake subtransmission line runs through the middle of the site from north to south along the 25th Avenue alignment. Agricultural irrigation canals also run through the site alongside the 25th Avenue alignment, and along the south side of Laurel Avenue, and several smaller irrigation canals branch off to the south from the Laurel Avenue canal within the site. A large agricultural drainage ditch runs alongside the Avenal Cutoff Road frontage of the site. There are no buildings or sheds on the Aquamarine project site.
The Gen-Tie corridor commences from the southwest corner of the Aquamarine site and runs along the east side of the 25th Avenue alignment for a distance of 2.5 miles to Nevada Avenue. The Gen-Tie corridor then turns west and follows the north side of Nevada Avenue for a distance of 6.2 miles to the Fresno County line just west of Avenal Cutoff Road. The Gen-Tie Line will run entirely within easements acquired through private property alongside the County right-of-way except where it crosses public roadways. All of the lands within and adjacent to the Gen-Tie corridor are in agricultural use, and comprise fallow fields, row crops, tree crops, and vineyards.

**Planned Solar Generating Facility**

The Aquamarine Solar Project is planned to generate at total of 250 MW (AC) of electrical output from solar photovoltaic (PV) modules. The project is planned to be constructed over an 18- to 24-month period commencing in 2019. (See Figures 4 through 6.)

The solar modules will be mounted on a series of horizontal single-axis trackers which will be oriented north-south and rotate the solar arrays in an east-west direction. The solar modules produce direct current (DC) power and the electricity travels to power conversion stations (PCS) via underground cables to be converted to alternating current (AC) power. The project will include a total of 100 PCSs with power rating of 2.5 MW each, which will step up the generated power to a collection voltage of 34.5-kV.

The Aquamarine Solar Project will include a substation at the southwest corner of the project which will step up the generated power from 34.5-kV collection voltage to 230-kV for transmission.

**Planned Gen-Tie Line**

The power from the on-site substation will be conveyed to a new 230-kV generation tie-line (Gen-Tie Line) that will connect the Aquamarine project to the Point of Interconnection (POI) with the PG&E system at the Gates Substation. The Gen-Tie Line will be privately constructed, owned and operated. The Gen-Tie Line will commence from the southwest corner of the Aquamarine site and run along the east side of the 25th Avenue alignment for a distance of 2.5 miles to Nevada Avenue. The Gen-Tie Line will then turn west and follow the north side of Nevada Avenue for a distance of 6.2 miles to the Fresno County line just west of Avenal Cutoff Road. An additional 6.3 miles of gen-tie line will continue along Jayne Avenue in Fresno County to the Gates Substation. The Kings County portion of the Gen-Tie Line is included in the subject CUP application to Kings County. The Fresno County segment of the gen-tie line will be the subject of a separate Conditional Use Permit application to the County of Fresno. It is noted that the entire Gen-Tie corridor (in Kings and Fresno Counties) extending to the Gates Substation received programmatic CEQA clearance with WWD’s certification of the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan Program EIR in January 2018.

[Note: An alternative route for the Kings County segment of the Gen-Tie Line is also under consideration by the applicant. The 1.5-mile long alternative route would run along the south side of Nevada Avenue, commencing at the 26th Avenue alignment and would extend west to midway between the 27th and 28th Avenue alignments where it would cross over to the north side of the roadway (see Figure 2). Since conditions along the south side of Nevada Avenue in this segment are virtually identical to conditions on the north side of Nevada Avenue, the environmental analysis of the planned Gen-Tie Line alignment in this document is also applicable to the alternative alignment.]
Overall Site Plan
Figure 4a

Sources: Stellavise; 4 Creeks Engineering
Site Plan - Southwest (2 of 4)

Figure 4c

Match line, see Figure 4a

KEY MAP

LEGEND

This sheet
Project boundary
Section lines

SECTION 16

SECTION 15

SECTION 14

SECTION 9

SECTION 16

SECTION 15

SECTION 22

Sources: Stellavise; 4 Creeks Engineering
Sources: Stellavise; 4 Creeks Engineering

Site Plan - Central (3 of 4)
Figure 4d
Site Plan - Southeast (4 of 4)

Figure 4e

Sources: Stellavise; 4 Creeks Engineering
Solar PV Modules on Horizontal Trackers

Source: Stellavise

Solar Array Details
Figure 5
Solar Facility Details

Inverter/Transformer Pad

Internal Gravel Maintenance Road

Perimeter Fence

Source: Stellavise; 4 Creeks Engineering

Figure 6
Project Purpose and Objectives

The purpose and objectives of the Aquamarine Solar Project and Gen-Tie Line are as follows:

- Generate up to 250 megawatts of clean, renewable electrical power utilizing solar photovoltaic (PV) technology.
- Provide for the transmission of solar generation from the Aquamarine Solar Project to the State electrical grid by constructing a generation tie-line (Gen-Tie Line) from the Aquamarine Solar Project to the Gates Substation.
- Help implement the State’s goal of increased electrical generation with renewable resources under California’s Renewables Portfolio Standard (RPS).
- Help implement the State’s Global Warming Solutions Act of 2006 (AB 32), as supplemented in 2016 by SB 32, by providing a non-fossil fuel based source of electricity that will replace existing fossil-based generation and thereby contribute to the overall reduction in greenhouse gas emissions.
- Provide for the economically viable and environmentally beneficial reuse of the site’s physically impaired agricultural soils.
- Provide a utility-scale solar generation facility on highly disturbed lands which provide minimal habitat value for wildlife.
- Create new employment opportunities for local residents.
- Positively contribute to the local economy through stimulation of economic activity such as creation of secondary multiplier employment and the purchase of materials and services.

Construction of Solar Generating Facility

The completion of the Aquamarine solar generating facility (SGF) will involve three major construction phases, including: site preparation activities, installation of solar arrays and electrical components, and construction of the on-site substation. Each of these construction phases is described in turn below.

Site Preparation Activities

Pre-construction Activities

The site development process will begin with pre-construction activities such as surveying and staking for various project elements like internal gravel driveways, PV array locations, electrical trenches, equipment pads, and support structures. The next step will be construction mobilization, which will include delivering initial equipment, supplies, and temporary construction trailers to the site.

Clearing and Grading

Prior to facility construction, the site will be cleared of vegetation, graded and compacted. Site clearing and soil preparation will occur incrementally as needed, and will not proceed to a new area until that...
area is needed for the next construction phase. Vegetative cover will be retained as long as possible to minimize exposed soils and reduce potential for erosion and wind-blown dust.

Since the existing ground is generally level, with only agricultural furrows creating minor terrain roughness, the solar development can be accommodated without mass grading. Ground preparation will include tilling and grading to smooth out existing agricultural furrows, followed by compaction with rollers. The existing topsoil will not be removed. Final grades will be designed to provide for positive drainage. Measures for erosion and sediment control will also be implemented, as described in “Stormwater Management and Erosion Control” below.

Construction Staging

Each project phase will include a temporary staging area for construction support. The staging areas will occupy one or two acres each, and will include construction offices, a first aid station, worker parking, areas for equipment storage, cleaning, and maintenance, a truck unloading area, and an area for storing and assembling the PV systems prior to installation. Portable chemical toilets will provide for sanitary needs and bottled drinking water will be delivered to the site. The staging areas will require a power source for temporary lighting, which will either be supplied by portable generators or existing local power lines. The staging areas will be enclosed by security fencing. During construction, the staging areas will periodically be relocated within the project site, to maintain proximity to ongoing installation areas.

Temporary Internal Roadways

Construction access through the project site will be provided by temporary all-weather roadways composed of native compacted soil and treated with dust palliative as needed. Temporary project entrances will be composed of gravel, and tire wash racks will be installed at the project entries for washing wheels of construction vehicles prior to exiting in order to avoid tracking of mud and sediment onto Avenal Cutoff Road and Laurel Avenue.

Perimeter Fencing

Prior to installation of solar arrays, the perimeter of each project phase will be securely fenced and gated to prevent unauthorized access. The planned 6-foot chain-link galvanized metal perimeter fences for the Aquamarine site will be topped with standard three-strand barbed wire. Fence posts will be driven into the soil profile using truck mounted vibratory drivers. All fence posts will be capped to prevent the entrapment of small birds. Vehicle access gates will be installed at the project entrances on Avenal Cutoff Road and Laurel Avenue; these gates will remain locked when not in use.

In order to allow unimpeded passage of kit fox and other local wildlife through the Aquamarine site, all security fencing will include a continuous 5-inch gap between the bottom of the fence and the ground surface.

Installation of Solar Arrays and Electrical Components

Solar Arrays

The photovoltaic modules selected for the project will be composed of poly-crystalline silicon solar cells arranged on larger panels (measuring approximately 6.5 by 3.3 feet), and protected with tempered glass panes. The PV cells are dark in color to maximize absorption and minimize reflectance of sunlight.
Construction of the solar arrays will begin with installation of the cylindrical steel posts (or H-beams/C-channels) which will be driven into the ground using truck-mounted vibratory drivers. The posts will be installed at approximately 10 foot intervals to depths of 4 to 10 feet, with actual depths in depending on localized soil conditions and load factors. Next, the torque tubes and motor drivers for the single-axis trackers will be mounted on the installed posts in a north-south orientation. This will be followed by placement of metal racking systems on the trackers, and finally installation of solar modules on the racking systems.

The maximum planned length of the solar arrays will be 300 feet between internal 20-foot wide gravel driveways, although some arrays will be shorter to accommodate the irregular site boundaries. (The internal gravel driveways are described in detail on the next page.) The completed solar arrays will be spaced approximately 17.5 feet apart (on center) and 5.5 feet from the ground surface, when the modules are in their horizontal resting positions. At maximum tilt, the solar modules would reach a height of approximately 8 feet above ground level. The parallel arrays will be separated by approximately 11 feet of clear area when in the horizontal position.

Trenching will occur along each array to bury the electrical cables connecting the modules to the inverters and transformers distributed throughout the project site. The trenches will be approximately 3 feet wide and 3 feet deep and will be backfilled with native material after cables are laid. The electrical output from the PV modules will be collected as DC (direct current) in combiner boxes at each array and delivered via undergroun the cables to the Power Collection Stations (PCS).

**Inverters and Transformers**

The Power Collection Stations will include inverters and transformers to convert the generated power to collection voltage. The inverters will convert the DC electrical output to AC, and the transformers will step up the generated voltage to intermediate collection voltage (e.g., 34.5-kV). The PCSs will be placed on equipment pads at predetermined locations where each PCS will serve approximately 2.5 MW of AC power, or the output from approximately 111 full-sized arrays with a total of 9,343 modules in each array. Accordingly, the 250 MW Aquamarine project is planned to include 100 PCSs, each on a concrete pad measuring approximately 32- by 13-feet.

**Operations Yards and Buildings**

The Aquamarine Solar Project will include an operations yard which will provide storage for operational equipment and materials, and provide parking and maneuvering areas for staff vehicles, delivery trucks, and service vehicles. The operations yard will measure approximately 130 by 100 feet. The operations yard will include a pre-manufactured operations and maintenance (O&M) building for storage, occasional visits/meetings for maintenance crew and to house the on-site telecommunications server. The parking area will include 10 spaces including one ADA space. Domestic wastewater disposal would be provided by a septic tank and leachfield system located adjacent to the O&M building. Since the project site is located in an area for which the County requires septic systems to be engineered, the Aquamarine septic system will be designed and constructed as specified by a qualified registered civil engineer. During construction, wastewater needs would be provided by portable chemical toilets which would be serviced by a private contractor.
Project Entrances and Internal Gravel Driveways

The Aquamarine Solar Project will include permanent vehicular entrances off Avenal Cutoff Road and Laurel Avenue. The project entrances will be designed and constructed in accordance with the Kings County Improvement Standards.

Permanent access through the project will be provided primarily by internal gravel driveways which will run along the site perimeter of each project phase and across the solar fields in an east-west direction at intervals of 300 feet or less. Thus the distance between the internal parallel internal gravel driveways will provide sufficient access throughout the project for emergency vehicle access. The internal gravel roadways will be a minimum of 20 feet wide and will provide vertical clearance of at least 13.5 feet to allow passage and maneuvering of emergency and maintenance vehicles. The internal gravel driveways will be designed and constructed to have a continually durable dust free surface, in accordance with the Kings County Improvement Standards, and will be permeable to allow percolation of rainfall and runoff into the underlying soil. To meet Kings County Fire Department requirements, the internal driveways will consist of an all-weather surface capable of supporting fire apparatus with loads of 65,000 lbs.

Signage

Project signage will consist primarily of identification signs at the permanent project entrances, and safety signage at electrical equipment. During the construction phase, temporary directional signage will be employed as needed. All signage will conform to the sign standards of the Kings County Development Code.

Exterior Lighting

Lighting for the solar facilities will be designed to provide minimum illumination for safety and security while avoiding direct light spillover onto public roadways or adjacent properties. Permanent exterior lighting will be installed at the site entrances, the operations yard, and the substation. Lighting systems will be light-activated to automatically come on in the evening and shut off in the morning. Lighting within the solar fields will be confined the PCSs, which will be activated only when needed by switch or motion sensors. There will be no lighting within the solar arrays, along any internal access driveways, or around the facility perimeters. Light fixtures will be shielded and focused downward and toward the interior of the project site.

Telecommunications

The solar facility will include Supervisory Control and Data Acquisition (SCADA) systems to provide monitoring of facility operation and remote control of critical components. Within each project phase, the solar arrays will be connected by fiber optic or other cabling that will be installed in buried conduit leading to a centrally located SCADA system cabinet. The SCADA systems will be connected to local telecommunications service via overhead lines or buried lines. Telecommunications may also be transmitted wirelessly. The SCADA servers will either be housed in the on-site O&M buildings or remotely in a cloud system.

Meteorological Stations

The project will include one or more meteorological monitoring stations (“met” stations) to record key data such as insolation (incident solar radiation), air temperature, precipitation, wind direction and
speed, and relative humidity. The met stations will collect meteorological data from about 11 to 14 feet above the ground, or about 3 feet above the maximum height of nearby equipment to allow for accurate wind readings.

**Installation of the Substation and Gen-Tie Line**

The project substation will be constructed by a private electrical contractor on an approximately 2-acre site in the southwest corner of the Aquamarine site (see Figure 7). At the substation, collection voltage will be stepped up from 34.5-kV to 230-kV and conveyed to the new 230-kV Gen-Tie Line that will connect the Aquamarine project to the Point of Interconnection (POI) with the PG&E system at the Gates Substation. The maximum height of structural elements within the on-site substation would be about 40 feet.

The new Gen-Tie Line will commence from the on-site substation and run southward along the east side of the 25th Avenue alignment within a 100-foot wide easement for a distance of 2.5 miles to Nevada Avenue. The gen-tie line will then turn west and follow Nevada Avenue in a 350-foot wide easement within private property for a distance of 6.2 miles to the Fresno County line just west of Avenal Cutoff Road. An additional 6.3 miles of gen-tie line will continue within private easements along Jayne Avenue in Fresno County to the Gates Substation. The terminations at the PG&E Gates Substation will be performed by PG&E subject to the approval authority of the California Public Utilities Commission (CPUC).

The Kings County portion of the Gen-Tie Line is included in the subject CUP application to Kings County. The Fresno County segment of the Gen-Tie Line is the subject of a separate Conditional Use Permit application to the County of Fresno, which is currently in process.

**Interconnection Alternative**

Another option under consideration for interconnection is to connect to the PG&E system at the on-site substation, which would also include a switching station. Under this option, the on-site substation.switching station would be under PG&E’s ownership and thus subject to CPUC jurisdiction. CPUC General Order No. 131-D establishes that local jurisdictions are preempted from regulating electric power line projects, distribution lines, substations, or other electric facilities constructed by public utilities subject to the CPUC’s jurisdiction.
Substation Plan

Figure 7

Source: CEI Engineering

230-Kv Substation Plan

Transformer Bays

Switching Bay

Transformer Bay Elevation

Switching Bay Elevation

Gen-Tie Monopole (Typical)

WESTLANDS SOLAR PARK PROJECTS (WSPH CUPs) (2018 & 2019)/Aquamarine (2019)

100’ TO 180’ (150’ SHOWN)
Impervious Surfaces

The coverage of the solar facility with impervious surfaces will be minimized in order to allow for revegetation of the site. Relatively small areas of impervious surfaces will be created by concrete pads and footings for the inverters/transformers, substation, the O&M building, and asphalt pavement for site entrances and parking area. The internal driveways will be surfaced with gravel for permeability, and will include no asphalt pavement or other impervious materials. Table 1 provides a breakdown of impervious surfaces by equipment and facility type.

### TABLE 1

**Coverage by Impervious Surfaces and Gravel Driveways**

<table>
<thead>
<tr>
<th>Equipment/Facility</th>
<th>Area of Coverage (Square Feet)</th>
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<tbody>
<tr>
<td>Impervious Surfaces</td>
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</tr>
<tr>
<td>Inverter/Transformer Pads</td>
<td>41,600</td>
</tr>
<tr>
<td>Substation Pad/Footings</td>
<td>2,866</td>
</tr>
<tr>
<td>O&amp;M Building</td>
<td>1,240</td>
</tr>
<tr>
<td>Operations Parking Area (paved area)</td>
<td>342</td>
</tr>
<tr>
<td>Total Impervious Surface Coverage</td>
<td>46,048</td>
</tr>
<tr>
<td>Total Coverage by Gravel Driveways (Pervious)</td>
<td>6,144,208</td>
</tr>
<tr>
<td>Total Site Area (1,824.65 acres)</td>
<td>79,481,754</td>
</tr>
<tr>
<td>Percentage Impervious in Project</td>
<td>0.06%</td>
</tr>
<tr>
<td>Percentage Gravel Driveways</td>
<td>7.73%</td>
</tr>
<tr>
<td>Percentage Impervious + Gravel Driveways</td>
<td>7.79%</td>
</tr>
<tr>
<td><strong>Percentage Remaining in Managed Vegetative Cover</strong></td>
<td>73,291,498 square feet 92.21%</td>
</tr>
<tr>
<td>(= Total Area minus Impervious Surfaces and Gravel Driveways)</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage Remaining in Grazed Vegetated Cover</strong></td>
<td>35,022,240 square feet 44.06%</td>
</tr>
<tr>
<td>(= 872 acres west of 25th Ave., minus Impervious Surfaces and Gravel Driveways, = 804 acres). (This is a subset of Managed Vegetative Cover above.)</td>
<td></td>
</tr>
</tbody>
</table>

* See “Vegetation and Agricultural Management” below for a detailed explanation of post-construction vegetation management and grazing requirements.
Construction Workforce and Equipment

**Workforce**

During construction, the number of workers would fluctuate depending on the construction stage. As shown in Table 2, the workforce numbers would be greatest during installation of the solar arrays, especially when this construction stage overlaps with the site preparation stage, when a total workforce of 430 construction personnel would be on-site.

**TABLE 2**

**OFF-SITE CONSTRUCTION VEHICLE USAGE, BY CONSTRUCTION PHASE**

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Estimated Usage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1 – Site Preparation</strong> (210 work days or 43 weeks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Trucks(^1)</td>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>Flat Bed Trucks</td>
<td>12</td>
<td>85</td>
</tr>
<tr>
<td>Gravel Trucks (End Dump)(Delivery)</td>
<td>18</td>
<td>56</td>
</tr>
<tr>
<td>Equipment Transport Trucks (Delivery)</td>
<td>24</td>
<td>85</td>
</tr>
<tr>
<td>Worker Vehicles(^2)</td>
<td>140</td>
<td>68</td>
</tr>
<tr>
<td><strong>Phase 2 – Installation of Solar Arrays</strong> (300 work days or 61 weeks)(Overlaps with Phase 1 for 65 work days or 13 weeks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Trucks(^1)</td>
<td>4</td>
<td>85</td>
</tr>
<tr>
<td>Freight Trucks (Delivery)(^3)</td>
<td>19</td>
<td>400</td>
</tr>
<tr>
<td>Equipment Transport Trucks (Delivery)</td>
<td>7</td>
<td>85</td>
</tr>
<tr>
<td>Service Trucks</td>
<td>3</td>
<td>85</td>
</tr>
<tr>
<td>Worker Vehicles(^2)</td>
<td>290</td>
<td>68</td>
</tr>
<tr>
<td><strong>Phase 3 – Installation of Inverters, Transformers, Substation</strong> (160 work days or 30 weeks)(Overlaps with Phase 2 for 85 work days or 17 weeks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Trucks(^1)</td>
<td>1</td>
<td>85</td>
</tr>
<tr>
<td>Ready Mix (Delivery)</td>
<td>3</td>
<td>50</td>
</tr>
<tr>
<td>Freight (Delivery)(^3)</td>
<td>1</td>
<td>400</td>
</tr>
<tr>
<td>Equipment Transport Trucks (Delivery)</td>
<td>1</td>
<td>85</td>
</tr>
<tr>
<td>Worker Vehicles(^2)</td>
<td>40</td>
<td>68</td>
</tr>
</tbody>
</table>

\(^1\) Water trucks are anticipated to be filled with water from the existing agricultural well at the west boundary of the project site.

\(^2\) No carpooling or transit use is assumed for workers’ traveling to and from the Aquamarine project site.

\(^3\) Freight deliveries include solar modules, racking systems, support structures, and major electrical components, all of which are assumed to originate in equal portions from ports or distribution centers in the Bay Area or Southern California.
Typically, construction would take place between the hours of 7 AM to 3 PM, Monday through Friday, although work could take place outside these hours if needed to maintain schedules. For safety reasons, certain construction tasks, such as final electrical terminations, must be performed after dark when no energy is being produced.

Assuming all workers commute to the site in single-occupant vehicles, they will generate an average of 860 daily trips (in-bound and out-bound) or 430 round trips during the peak 13 week construction period when Phases 1 and 2 overlap. Employee traffic generated during less intensive construction periods will be substantially less.

The construction workforce for the Aquamarine Solar Project will be largely drawn from the surrounding communities, with the possible exception of project management personnel. Based on a gravity model using population and distance factors for communities within commuting range, it was determined that the average round-trip commute length for construction personnel would be 68 miles. All workers will be encouraged to carpool.

**Construction Deliveries**

The construction of the solar facility will involve the use of numerous pieces of construction equipment and support vehicles at various stages of construction. This will include grading and excavation equipment such as graders, scrapers, dozers, compactors, trenchers, and back-hoes; and general construction equipment like concrete mixers, cranes, hydraulic pile drivers, fork lifts, water trucks, ATVs, pick-up trucks, and generators. This equipment will be brought to the Aquamarine site when needed and will remain within the site throughout the duration of the activities for which they are needed.

Deliveries of solar modules and support structures, electrical components, concrete and aggregate will occur throughout the construction period. The equipment and material deliveries will originate in various locations in central California and will follow designated truck routes to travel to the project site. It is anticipated that deliveries of solar modules, tracking systems, and major electrical components would originate from ports or distribution centers in the Bay Area and/or Southern California. It is anticipated that aggregate supplies would be obtained from the nearest source at Avenal Paving and Gravel located on Highway 33 between Avenal and Coalinga. Similarly, it is expected that concrete would be supplied from a ready-mix plant located outside Coalinga. All other construction deliveries are expected to originate from the Fresno area.

The estimated number of deliveries during all construction stages is shown in Table 2. For the most intensive construction period – a 13-week period when Phases 1 and 2 overlap - the project will receive an average of 42 deliveries per day.

Table 3, on the next page, lists the types of equipment that will be utilized during the three main construction stages for the project.
### Table 3

**On-Site Construction Equipment Usage, by Construction Phase**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Phase 1 – Site Preparation (210 work days or 43 weeks)</th>
<th>Phase 2 – Installation of Solar Arrays (300 work days or 61 weeks)/(Overlaps with Phase 1 for 65 work days or 13 weeks)</th>
<th>Phase 3 – Installation of Inverters, Transformers, Substation, Interconnection (160 work days or 30 weeks)/(Overlaps with Phase 2 for 85 work days or 17 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Units</td>
<td>Hours/Day (5 days/week)</td>
<td>Days/Unit</td>
</tr>
<tr>
<td>Water Trucks</td>
<td>5</td>
<td>7</td>
<td>210</td>
</tr>
<tr>
<td>Bulldozers</td>
<td>3</td>
<td>7</td>
<td>210</td>
</tr>
<tr>
<td>Graders</td>
<td>5</td>
<td>7</td>
<td>108</td>
</tr>
<tr>
<td>Compactors</td>
<td>1</td>
<td>7</td>
<td>42</td>
</tr>
<tr>
<td>Skid Loaders</td>
<td>1</td>
<td>7</td>
<td>188</td>
</tr>
<tr>
<td>Asphalt Pavers</td>
<td>1</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>Front-End Loaders</td>
<td>1</td>
<td>7</td>
<td>83</td>
</tr>
</tbody>
</table>

*Notes:*

- **Water Trucks**
  - Units: 5
  - Hours/Day: 7
  - Days/Unit: 210

- **Bulldozers**
  - Units: 3
  - Hours/Day: 7
  - Days/Unit: 210

- **Graders**
  - Units: 5
  - Hours/Day: 7
  - Days/Unit: 108

- **Compactors**
  - Units: 1
  - Hours/Day: 7
  - Days/Unit: 42

- **Skid Loaders**
  - Units: 1
  - Hours/Day: 7
  - Days/Unit: 188

- **Asphalt Pavers**
  - Units: 1
  - Hours/Day: 4
  - Days/Unit: 28

- **Front-End Loaders**
  - Units: 1
  - Hours/Day: 7
  - Days/Unit: 83

- **Water Trucks**
  - Units: 1
  - Hours/Day: 7
  - Days/Unit: 154

- **Tractors – post drivers**
  - Units: 2
  - Hours/Day: 7
  - Days/Unit: 245

- **Forklifts**
  - Units: 6
  - Hours/Day: 7
  - Days/Unit: 220

- **Trenchers**
  - Units: 9
  - Hours/Day: 4
  - Days/Unit: 245

- **Flat Bed Trucks**
  - Units: 12
  - Hours/Day: 7
  - Days/Unit: 220

- **Water Trucks**
  - Units: 1
  - Hours/Day: 7
  - Days/Unit: 140

- **Forklifts**
  - Units: 2
  - Hours/Day: 4
  - Days/Unit: 140

- **Trenchers**
  - Units: 1
  - Hours/Day: 4
  - Days/Unit: 144

- **Backhoes**
  - Units: 1
  - Hours/Day: 4
  - Days/Unit: 158

- **Cranes**
  - Units: 1
  - Hours/Day: 2
  - Days/Unit: 94

- **Aerial Lifts**
  - Units: 1
  - Hours/Day: 6
  - Days/Unit: 94
Site Management during Construction

**Dust Suppression and Soil Conditioning**

During construction, non-potable water will be used for dust control and soil conditioning during earthwork. Based on past experience with similar projects, the water demand for preparation and construction of the 1,825-acre Aquamarine solar project would average 0.2 acre-feet per acre (af/ac), resulting in a total consumption of 365 acre-feet of water during the two-year construction period, or 182.5 acre-feet per year (afy). It is anticipated that water for grading and construction will be obtained from the existing agricultural well at the west boundary of the project site.

Curtailment of groundwater pumping to meet the project demand for construction water is not currently foreseen. However, in the unlikely event that such unforeseen curtailment occurs, the relatively small volumes of untreated water that would be temporarily required during construction would be purchased from alternative sources and trucked to the site.

**Stormwater Management and Erosion Control**

During grading and construction, soil stabilization and runoff control measures would be required to prevent erosion and sedimentation. The particular measures that would be appropriate for conditions within the Aquamarine site would be specified in the Storm Water Pollution Prevention Plan (SWPPP), as required for all projects over 1 acre in size by the State Water Resources Control Board. The SWPPP would specify Best Management Practices (BMPs) such as stormwater runoff control and hazardous waste management measures, and include monitoring and reporting procedures.

Typical measures will include: diversion of runoff away from disturbed areas, protective measures for sensitive areas, mulching for soil stabilization, straw-bale barriers, and siltation or sediment ponds. Specific BMPs will be determined during the final engineering design stage for each project phase. Approval of each respective project SWPPP by the Regional Water Quality Control Board will be obtained prior to initiation of ground disturbing activities for each project phase.

**Construction Waste Recycling and Disposal**

The waste generated during construction will primarily consist of non-hazardous waste materials such as packing containers and materials, waste lumber, wood pallets, scrap metal, glass and paper. These waste materials will be segregated on-site for recycling or disposal at a Class III landfill.

Some quantities of hazardous wastes will be generated during construction. These waste materials will include waste paint, waste solvents, waste oil, oily rags, used batteries, etc. Hazardous wastes generated during construction will be either recycled or disposed of at a Class I disposal facility, as required.

**Revegetation of Completed SGF Areas**

Upon completion of each section of the solar facility, the exposed soils beneath and around the solar arrays will be vegetated to prevent erosion and provide dust control. The exposed areas will be planted with an approved native seed mix that will contain only “low water use” plant species, thus minimizing water use, discouraging weed infestation, and providing habitat value for native wildlife species.


**OPERATION OF SOLAR GENERATING FACILITY**

The Aquamarine Solar Project will involve facility operation and monitoring, facility maintenance, and security. These are described in turn below.

**Facility Operation and Monitoring**

Operational activities will primarily involve monitoring and management of solar generation, which will occur during daylight hours year round. The project proponent will contract with an off-site O&M provider with a facility in the area. Operations staff will not be stationed at the Aquamarine site, but will manage the facility remotely via SCADA (“Supervisory Control and Data Acquisition”) systems. Operators will monitor and analyze the collected data to determine maintenance needs, respond to automated alerts from the monitoring systems (i.e., in the event of equipment failures or abnormalities), and communicate with customers and transmission facility operators.

**Facility Maintenance**

*Equipment and Infrastructure Maintenance*

Operators will also visit the Aquamarine solar facility regularly to conduct visual inspections of equipment, internal roadways, and fencing, and perform maintenance or make repairs as necessary. Table 4 provides details on equipment and vehicle usage for operations and maintenance purposes. It is expected that two maintenance personnel would visit the site periodically, with more workers added when repairs or installation of replacement equipment is needed. (See ‘Operations Personnel’ below for an overview of staffing levels and functions.)

**Table 4**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Estimated Usage (Annual)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Units</td>
<td>Hours/Day/Unit</td>
<td>Total Days/Unit/Year</td>
</tr>
<tr>
<td>All-Terrain Vehicle (ATV)</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Tractor</td>
<td>2</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>Portable Generator</td>
<td>2</td>
<td>8</td>
<td>60</td>
</tr>
<tr>
<td>Portable Water Trailer w/Pump</td>
<td>5</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td><strong>Vehicles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pickup Truck (Routine O&amp;M)</td>
<td>8</td>
<td>30</td>
<td>130</td>
</tr>
<tr>
<td>Pickup Truck (Panel Washing)</td>
<td>10</td>
<td>6</td>
<td>40</td>
</tr>
</tbody>
</table>

As mentioned, the operations yard will include a pre-manufactured O&M building for storage, occasional visits/meetings for maintenance crew and to house the on-site telecommunications server. The sanitary facilities in the O&M building will be connected to an adjacent septic tank and leachfield system which will be designed and constructed as prescribed by a qualified registered civil engineer.
**Weed and Pest Control**

As required under the County Development Code, the Aquamarine project will include implementation of a Pest Management and Weed Abatement Plan. The Pest Management Plan will be directed toward prevention and control of infestations by rodents such as rats, ground squirrels, gophers, and voles which can cause damage to project structures and spread diseases. The primary objective will be to avoid rodent infestations through preventative measures such as vegetation management (described below) in order to avoid impacts to protected wildlife species. Natural or ecological control through predation by hawks would also provide incidental control of rodent populations. The use of eradication measures such as application of rodenticides would only be employed as a last resort.

The Weed Control Plan will specify measures to prevent infestation of invasive weed species which would reduce the grazing value of the site, pose a fire hazard, and potentially spread to neighboring farmland. Weed control will mainly consist of a combination of methods, including the use of weed-free seed mixes for site revegetation, and keeping vegetation low through sheep grazing and mechanical methods such as mowing, trimming, and hoeing. Herbicides would be used only selectively where needed using low impact chemicals and practices that minimize impacts to protected biological species. The Pest Management and Weed Abatement Plan will be submitted for County approval prior to issuance of building permits for the Aquamarine Solar Project.

**Vegetation and Agricultural Management**

Upon the completion of construction within a given area of the project, the exposed soils will be revegetated through seeding for slow-growing grasses, with the site entire revegetated upon completion of construction. Vegetative cover will generally be kept low to prevent shading of solar panels and to minimize buildup of combustible fuel loads. The short vegetation cover will also allow passage of emergency vehicles, and maintenance and panel washing vehicles. Management of the site vegetation in the portion of the site west of the 25th Avenue alignment will be different from vegetation management in the area east of the 25th Avenue alignment, as described below.

In the western portion of the project site vegetation will be kept low primarily through sheep grazing and also mechanical means where needed. The sheep grazing would take place in the westerly 872-acres of the project site in order to maintain agricultural activity on these lands which are subject to Williamson Act contracts. (The net vegetated area subject to grazing would be 804 acres after subtracting internal driveways, equipment pads, O&M building and paved parking area.) The sheep grazing will be managed and controlled by temporary sheep enclosures which will be moved progressively through the western portion of the project site. Grazing will occur from January until the end of the growing season in May, at which time the sheep will be removed. The details of the sheep grazing program will be further described in the Agriculture Management Plan (AMP) which will be prepared and implemented to ensure maintenance of sustainable agricultural operations in the western portion of the site throughout the life of the project. The detailed requirements of the AMP are specified in Mitigation Measure AG-1 in this IS/MND (see section 4.2 – Agriculture and Forestry Resources). The AMP would be subject to County approval prior to issuance of building permits for the Aquamarine Solar Project. (See section 4.2 Agriculture and Forestry Resources for detail discussion of agricultural management requirements for the project.)

In the eastern portions of the project site, vegetation will be primarily managed by mechanical means such as mowing and hand-clipping. Sheep grazing may be employed in these areas although it is not required to maintain agricultural productivity since these areas of the site are not subject to Williamson...
Chapter 2 – Description of the Proposed Project

Act contracts. However, revegetation of the entire site is required to prevent dust generation from exposed soils, per Air District requirements, and to prevent erosion, as specified in Mitigation Measure HYD-1, and also to conserve soils for future reclamation, as specified in the Soil Reclamation Plan, required under Mitigation Measure AG-2.

Fire Safety

The project will include a number of design and operational measures for fire prevention and suppression. Design measures include incorporation of County design standards for minimum driveway widths, ground clearance, and accessibility to all areas of the project. Fire prevention measures will include vegetation management as described above to minimize the potential for grass fires. All electrical equipment (including inverters) not located within a larger structure will be designed specifically for outdoor installation, and all electrical equipment will be subject to product safety standards. Vehicles and equipment will be required to be parked or stored away from vegetated areas. All construction and operations personnel will be trained in fire prevention and suppression measures, including the safe shut-down of electrical equipment during emergency incidents. Portable carbon dioxide (CO2) fire extinguishers will be mounted at the inverter/transformer pads throughout the project. Smoking will be permitted only in designated areas.

Prior to commencement of site work on the project, the fire prevention and emergency action plans to be implemented during project construction and operation would be prepared and formalized in coordination with the Kings County Fire Department.

Solar Module Cleaning

The PV modules will be washed periodically to remove dust in order to maintain efficient conversion of sunlight to electrical power. The cleaning interval will be determined by the rate at which electrical output degrades between cleanings. Periodic panel washing will likely be most needed during the dry summer months when there is an increased potential for deposition of windblown dust from nearby agricultural operations. It is anticipated that panel washing will be required up to four times per year, and will be accomplished using light utility vehicles with tow-behind water trailers. No chemical cleaners will be used for module washing. It is estimated that water demands from one complete cycle of panel washing will be approximately 2,437,439 gallons for the 250 MW project. (This estimate is based on: a water usage rate of 1/8 gallon per square foot of module area; a total of 934,332 modules; 20.87 square feet per module.) Four panel cleaning cycles per year will use approximately 9,749,755 gallons, or 29.92 acre feet of water.

Overall Operational Water Demands

General operational activities, such as washing or rinsing equipment, hand washing, and other non-toilet uses, is estimated to require of approximately 500,000 gallons (1.53 acre feet) of non-potable water annually. This is based on a conservative (high end) consumption rate of 2,000 gallons per MW per year.)

In addition, the sheep used for grazing will each require up to 3 gallons of water per day. Assuming a sheep grazing density of 0.5 sheep per acre over approximately 804 acres to be grazed, a total of 402 sheep would be employed. During the course of a 5-month (151-day) grazing period (January through May), the total water requirement for sheep watering would be 182,106 gallons, or 0.56 acre-feet per year.
As discussed above, the washing of solar modules will use approximately 29.92 acre-feet of water annually, based on four washing cycles per year.

Based on the annual water consumption estimates provided above, the combined operational water use by the Aquamarine solar facility for panel washing (29.92 afy), sheep watering (0.56 afy), and general operational uses (1.53 afy) will total approximately 32.01 acre-feet of water annually over the approximately 1,825-acre project site. This is equivalent to 0.0175 acre-feet per acre or 2.81 acre-feet per quarter-section (160 acres).

Operational water supplies will be provided by Westlands Water District (WWD) through its existing system of lateral pipelines for conveyance of imported surface water. The WWD has established an annual allocation of water deliveries for PV solar projects within its service area. PV solar facilities are eligible to receive up to 5.0 acre-feet per quarter-section per year for operational uses. As noted above, the operational water usage rate at the Aquamarine facility is estimated to be 2.81 acre-feet per quarter-section per year, which is well within the WWD’s maximum annual allowance of 5.0 acre-feet per quarter-section.

Small quantities of potable water will be required at the solar facilities for drinking and other uses. Potable water will be delivered to each site by a water delivery service.

**Operations Personnel**

Facility operations would be conducted by remote monitoring of the solar operation and by on-site maintenance services as needed. It is estimated that the operation of the solar facility will require no more than 10 on-site workers at any given time, as follows. Up to 2 workers will visit the solar facilities periodically to perform inspections, maintenance, and repair work, with additional staff added as needed for major equipment repairs or replacement. Panel washing cycles will involve up to 6 workers for up to 6 weeks per wash cycle, which is expected to occur up to 4 times per year. During the growing season when sheep are grazing on site, up to 2 sheep herders would be required to manage the rotation of sheep flocks through the site.

**Security**

The perimeter of the solar facility will be securely fenced and gated to prevent unauthorized access, as described under “Perimeter Fencing” above. The facility operator will contract with a private security company to provide security services during construction and operation. Electronic surveillance equipment such as infrared security cameras and motion detectors will be installed around the solar facility, with video feeds transmitted in real time to the off-site security contractor for monitoring. In the event that the surveillance system detects a breach, a security representative will be dispatched to the site, as needed, and the County Sheriff’s office will be notified as appropriate.
DECOMMISSIONING AND SITE RECLAMATION

At the end of its useful life, the Aquamarine solar facility will be decommissioned and the land returned to a farmable state. (It is anticipated that the initial purchase contract for solar generation will have a term of 25 years, although the term could be extended by several years through amendments to the purchase agreement.) Once the solar facility is de-energized, the facility will be decommissioned and the site will be reclaimed in accordance with the Soil Reclamation Plan required by the County. The Soil Reclamation Plan will be subject to County approval prior to issuance of a building permit.

Under the Soil Reclamation Plan, the deconstruction process will involve removal of all solar arrays, equipment and pads, substations, electrical cables, fencing, and other material. Equipment and materials will be reused and/or recycled to the extent practicable. Since these decommissioning activities will involve exposure and disturbance of soils, measures for erosion and sediment control will be implemented in accordance with a Storm Water Pollution Prevention Plan (SWPPP) that will be required for decommissioning. Upon complete removal of equipment and salvageable material, the site will be cleared of any remaining trash and debris.

After the last remnants of the solar facility are removed and hauled off-site, the land will be tilled to restore the soils to a density and consistency suitable for farming. Finally, the site will be reseeded with an appropriate weed-free seed mix in order to provide soil stability and moisture retention prior to the resumption of farming and/or grazing.

It is expected that the decommissioning of the Aquamarine solar facility will involve a similar level of activity as the original project construction, since it will essentially involve construction in reverse or deconstruction. Decommissioning may involve less equipment use and fewer material deliveries, and the time required for decommissioning may be less than the duration of the original project construction.

CONSTRUCTION OF THE GEN-TIE LINE

As described previously, the solar generation from the Aquamarine solar facility will be conveyed to the State power grid via a new 230-kV Gen-Tie Line to the Gates Substation, which will be the Point of Interconnection (POI) with the PG&E system. The Gen-Tie Line will commence from the southwest corner of the Aquamarine site and run along the east side of the 25th Avenue alignment for a distance of 2.5 miles to Nevada Avenue. The Gen-Tie Line will then turn west and follow Nevada Avenue for a distance of 6.2 miles to the Fresno County line just west of Avenal Cutoff Road. An additional 6.3 miles of Gen-Tie Line will continue along Jayne Avenue in Fresno County to the Gates Substation. The Kings County portion of the Gen-Tie Line is included in the subject CUP application to Kings County. The Fresno County segment of the gen-tie line is the subject of a separate Conditional Use Permit application to the County of Fresno, currently in process. As mentioned, the entire Gen-Tie corridor (in Kings and Fresno Counties) extending to the Gates Substation received programmatic CEQA clearance with WWD’s certification of the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan Program EIR in January 2018.

The construction of the various Gen-Tie components is described below.
Chapter 2 – Description of the Proposed Project

Gen-Tie Towers and Conductors

Gen-Tie Towers

Throughout the Gen-Tie corridor, the tower structures will consist of self-supporting tubular steel poles (TSPs or monopoles). The monopoles vary in height depending on location. Along the north-south corridor between the Aquamarine site and Nevada Avenue, the monopoles would be uniformly 100 feet in height. Along the Nevada Avenue segment, the monopoles would range in height from 130 to 180 feet. The typical tower-to-tower span in the north-south segment would range from about 600 to 800 feet, whereas in the Nevada Avenue segment the spans would range from about 900 to 1,320 feet. The Kings County portion of the Gen-Tie Line is planned to include about 57 monopoles over its 8.7-mile length. The monopoles would be sited as near to existing roads and farm lanes as practicable in order to minimize disturbance to agricultural operations. The Gen-Tie Line would consist of a single circuit; however, the towers would be capable of supporting two circuits, with one side remaining unstrung until additional transmission capacity is needed in the corridor.

The monopole footings would consist of steel-reinforced concrete piers which would be cast in place. The concrete footings would be to 30 to 60 feet deep and up to 8 feet in diameter, with actual dimensions depending on load and soil conditions, and whether the monopole is at a bend in the line which would require a more robust pole and foundation. The concrete footings would extend 2 to 4 feet above ground level.

Conductors and Tower Components

Each pole structure carries conductors (“wires” or “cables”), insulators, and ground wires. Each circuit consists of three phases, each of which is carried on a separate conductor cable. Conductors must meet minimum ground clearances (at the bottom of the conductor sag), typically 27 to 30 feet above the ground. Greater ground clearances would be required in certain areas to avoid tree crops or other vegetation that could pose a risk to operation of the Gen-Tie Line. Minimum safety clearance requirements and local topography would dictate the exact height of each tower.

Insulators are used to connect the conductors to the tower structures while inhibiting the flow of electric current from energized conductors to the ground or other energized system elements. Insulators and their associated hardware are configured to support conductors while maintaining required distances between phases and grounded structures.

To protect conductors from the hazard of direct lightning strikes, overhead ground wires (shield wires) or fiber optic ground wire is installed on top of tower structures in order to transfer lightning currents into the ground.

Construction of Gen-Tie Line

Construction Overview

It is estimated that the construction of the full Gen-Tie Line to the Gates Substation would be completed in approximately 9 months, with the Kings County segments requiring about 6 months to complete. The construction of the Gen-Tie Line would include the following a general sequence of activities: right-of-way acquisition; surveying and pre-construction activities; preparation of staging areas; construction of temporary access roads; tower installation; conductor installation; installing substation tie-ins; and site reclamation. Each of these activities is described below.

Aquamarine Solar Project and Gen-Tie Line
Kings County CUP 17-04

Initial Study/Mitigated Negative Declaration
May 2019
Right-of-way Acquisition

The Gen-Tie Line would require the acquisition of right-of-way (ROW) from the landowners whose properties are traversed by the corridors. The Gen-Tie Line would have a total length of about 15.0 miles, of which approximately 8.7 miles would be in Kings County. The ROW would be in the form of easements, which would allow agricultural activities to continue within the right-of-way. The easement width for the gen-tie would be 100 feet, although some short segments would be wider. It is anticipated that the project applicant would acquire a wider easement along Nevada Avenue, approximately 350 feet wide, in order to accommodate a second gen-tie line in the future. It is noted that the wider Gen-Tie corridor has received programmatic CEQA clearance with WWD’s certification of the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan Program EIR in January 2018.

Surveying and Pre-Construction Activities

For surveying on private lands, the project proponent would negotiate rights-of-entry with the affected landowners. Construction survey work would consist of locating the centerline, tower locations, ROW boundaries, and temporary disturbance areas for pulling and tensioning activities, and temporary tower access roads. Once the centerline and disturbance areas have been surveyed and clearly marked in the field, preconstruction surveys for biological resources would be conducted. Geotechnical investigations would also be conducted to determine soil densities and strength for use in soils engineering and structural design.

Construction of Access Driveways

Each monopole site would require vehicular access during construction, and also during Gen-Tie Line operation to allow access for inspection and maintenance. Since most of the Gen-Tie right-of-way would run adjacent to Nevada Avenue, access would be gained directly from this County road without the need for tower access driveways. Along the 2.5-mile Gen-Tie segment running north from Nevada Avenue alongside the 25th Avenue alignment to the Aquamarine site, a temporary access driveway may be required to support heavy construction vehicles and equipment.

Clearing Gen-Tie Right-of-Way

In order to reduce hazards associated with direct contact with trees and vegetation, minimum electrical safety clearances would be required as specified by national electrical safety standards. As such, some trimming or removal of mature vegetation within the Gen-Tie ROW may be required. Trees that could fall onto the lines or affect lines during wind-induced line swing would be removed. Normal clearing procedures would be to top or remove large trees and not disturb smaller trees.

The lands with permanent crops such as nut and fruit orchards would be most affected. Site clearing would be required at the tower sites including a specified permanent clear area surrounding each tower. The temporary clearance area for construction of the monopoles would typically be about 0.75 to 1.0 acres for each pole, and permanent displacement would be about 700 square feet (0.016 acres) for each pole. As mentioned, the monopoles would be sited at the edges of fields near existing public roads and farm roads to avoid cultivated lands to the extent practicable. In some locations, taller towers would be required in order to provide higher conductor ground clearances in order to avoid removal of existing orchard trees beneath the conductor sags.
Chapter 2 – Description of the Proposed Project

Preparation of Staging Area

It is anticipated that one construction yard or staging area would be required for the Gen-Tie project to provide for storage of materials (e.g., tower steel, conductor reels, structure hardware, etc.), construction equipment and vehicles, parking areas for crew vehicles, temporary construction offices, and portable sanitation facilities. This staging area is planned for a former cotton gin site on a 17-acre parcel at the northeast corner of Jayne Avenue and SR-269 in Fresno County.

Tower Installation

The first step in tower installation would be to prepare a cleared work area at the tower site to accommodate the construction of the tower footings, laydown areas for materials, work areas for the assembly of the tower structure, and sufficient area to allow necessary crane maneuvers for tower installation. As mentioned, the cleared work area for a typical monopole site would be approximately 0.75 to 1.0 acres in area. The sites would be cleared, graded, and compacted where necessary to accommodate heavy vehicles.

Next, the holes for tower foundations would be bored or augured, and concrete poured in place over the pre-assembled reinforcing steel cages set into the holes. Depending on load requirements and soil characteristics, 100 to 150 cubic yards (cy) of concrete would be delivered to each tower site to install footings or piers (an average of 125 cy is assumed until individual footing depths are determined based on a geotechnical study). Once the concrete has cured, the towers would be bolted to the piers. Sections of pole would be hauled to each tower site and lifted into place with a crane and bolted together.

It is expected that the soils excavated from the tower foundation holes would be distributed over the adjacent lands and would not be exported from the tower sites.

Upon completion of construction activity, a permanent setback area would be kept clear around each tower structure for maintenance access and fire safety purposes. It is expected that the typical finished tower pad, including clearance area, would be approximately 30 feet in diameter and occupy an area of up to 700 square feet (0.016 acres) within a 100-foot wide easement.

Conductor Installation

After the towers are completed, the conductors and ground wires would be installed. This would begin by stringing pilot lines from tower to tower. The pilot lines would guide the pulling of conductors and ground wires, which would be kept under tension to prevent contact with the ground and obstacles. The stringing of pilot lines would be performed by helicopter for the taller monopoles, and boom lifts or aerial man lifts may be used for the shorter towers.

Conductors and ground wires would be strung and tensioned using powered pulling equipment at one end and powered braking or tensioning equipment at the other end of a conductor segment. Pulling and tensioning sites would be spaced about 1 to 2 miles apart and would temporarily occupy areas of areas of 4 acres on average. These stringing equipment sites would mainly be located within the Gen-Tie easements. In locations where the gen-tie alignment changes course, the pulling and tensioning sites could extend beyond the gen-tie easement at these angles or corners, but would not extend more than 500 feet from the permanent easement. As with the monopoles, the precise locations and dimensions of the pulling and tensioning sites would be determined at the engineering design stage.
Given the height of most of the monopoles and the length of the spans, it is anticipated that a helicopter would be utilized for most, if not all, conductor stringing along the Gen-Tie Line. Helicopter services would be obtained on a short-term contract basis from aviation firms in the region. The helicopter landing zone would be located at the staging yard in Fresno County at the northwest corner of Jayne Avenue and SR-269.

There are several locations along the Gen-Tie alignment where the conductors would cross over public roads and highways, aqueducts, and electrical distribution and transmission lines. To protect these underlying features during conductor stringing, guard structures are typically installed to intercept cables and prevent them from dropping below a specified height. Typical guard structures consist of standard wood poles, 60 to 80 feet high, connected by a similar wood cross member to form an “H-frame.” Typically, guard structures would be placed on either side of the protected feature, with protective netting strung from the cross members on one guard structure to the cross members on the opposite structure. Guard structures would be designed and installed in accordance with applicable safety requirements. At each crossing location, the guard structure would be removed once the overhead conductors have been secured to towers.

**Substation Tie-ins**

The Gen-Tie Line would extend to the fence line at the Gates Substation located just west of Trinity Avenue in Fresno County. To make the interconnection, PG&E will construct a new 230-kV service line up to approximately 1,400 feet in length, starting near the intersection of Jayne and Trinity Avenues and extending into the Gates Substation. The service line will hang on approximately three new tubular steel poles, up to approximately 160 feet tall, to be located within PG&E’s existing Gates Substation property. Within the substation, modifications may include addition of new bays, circuit breakers, capacitor banks, shunt capacitors, and other electrical equipment. The details of the interconnection at the Gates Substation would be determined during the engineering design phase.

**Site Management during Construction**

**Dust Control**

During construction, water trucks would be used for regular application of water to minimize dust generation. Gen-Tie construction would include compliance with the fugitive dust measures specified in Regulation VIII of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

**Drainage and Erosion Control**

Measures to prevent erosion during construction would be specified in the Storm Water Pollution Prevention Plans (SWPPPs) required for the Gen-Tie project by the State Water Resources Control Board. The SWPPPs would specify Best Management Practices (BMPs) for erosion control and hazardous material containment to be implemented during construction. Drainage control features would be installed, as appropriate, to minimize stormwater runoff from construction areas.

**Construction Waste**

During construction, the waste generated would primarily consist of non-hazardous waste materials such as waste lumber, scrap metal, greenwaste, sanitation waste, and common trash. These waste
Chapter 2 – Description of the Proposed Project

materials would be collected and taken to the construction staging yard where they would be segregated for recycling or disposal at the appropriate facilities.

Soil excavated for tower footings would be spread over the area immediately surrounding the tower sites. Soil disposal would not be permitted on slopes exceeding 10 percent or within 100 feet of a stream or water body.

Some quantities of hazardous wastes would be generated during construction. These waste materials would include fuels, lubricants, and cleaning solvents, etc. Hazardous wastes generated during construction would be either recycled or disposed of at a Class I disposal facility, as required.

Land Disturbance and Restoration

The construction of the Gen-Tie Line would result in temporary and permanent land disturbance at tower locations and in temporary land disturbance at work sites and staging areas. Table 5 contains estimates of land areas that would be permanently and temporarily disturbed.

<table>
<thead>
<tr>
<th>Gen-Tie Project Feature</th>
<th>Quantity</th>
<th>Land Disturbance (Acres)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total Disturbance Area</td>
<td>Temporarily Disturbed/To be Restored</td>
</tr>
<tr>
<td>Tower Sites</td>
<td>57</td>
<td>57&lt;sup&gt;1&lt;/sup&gt;</td>
<td>56</td>
</tr>
<tr>
<td>Tower Access Roads</td>
<td>1&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Pulling/Tensioning Sites</td>
<td>8</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Staging/Material Storage Sites</td>
<td>0&lt;sup&gt;4&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>--</strong></td>
<td><strong>125 acres</strong></td>
<td><strong>124 acres</strong></td>
</tr>
</tbody>
</table>

Footnotes:
1 Temporary disturbance area at each tower site = up to 1.0 acre.
2 Permanent disturbance area at each tower site = up to 0.016 acres (700 sf) for the planned monopoles.
3 Temporary tower access road – Nevada Avenue to Aquamarine site: length = 2.5 miles; temporary width = 20 feet.
4 The tower access road will not remain after construction, and will be restored to agricultural use.

Upon completion of each segment of Gen-Tie Line, the areas disturbed during construction would be restored as appropriate. The disturbed areas would include: construction yards and staging areas; work pads and laydown/assembly areas at tower locations; areas disturbed for pulling and tensioning; and guard structure sites. Reclamation would involve the regrading and restoring soil density the disturbed areas with the objective of returning them to pre-construction conditions. A detailed reclamation plan would be prepared at the engineering design stage and incorporated into the plans and specifications for the Gen-Tie project.
Cultivation of row crops and tree crops are anticipated to continue within the Gen-Tie easements. Within Kings County, the Gen-Tie Line would pass through approximately 1.2 miles of existing tree crops. In order to provide adequate clearance between the tree tops and the conductor sags, it is anticipated that taller towers would be used to provide greater ground clearance for conductors and avoid removal of tree crops along the conductor sags. Thus it is not anticipated that any permanent tree crops would be removed beneath the conductor sags.

**Construction Workforce, Vehicles, and Equipment**

*Workforce*

Based on information provided by the project engineers, Gen-Tie Line is expected to have a maximum workforce of approximately 59 construction workers on any given day. It is expected that most of construction personnel would be drawn from the communities in the region, although some specialized workers may need to be brought in from outside the area and be temporarily lodged in local hotels. Given the dispersed nature of the construction activities along the Gen-Tie corridor, with relatively few employees traveling to any given work site, it likely would not be practical to provide shuttle service; likewise, opportunities for carpooling would be limited. Although some ridesharing would likely occur, it is assumed that all construction workers would be solo commuters.

During construction, the work activities would be distributed along the Gen-Tie Line, with various crews engaged in surveying, ROW clearing, tower foundation installation, tower assembly and erection, conductor installation, and reclamation. Assuming that all 59 workers would commute solo, the peak traffic generated by construction personnel would be 59 AM trips and 59 PM trips.

Typically, construction would take place in 10-hour shifts during the hours of 7 AM to 5 PM, Monday through Saturday, although work could take place outside these hours if needed. For example, highway crossings may be scheduled during nighttime hours to minimize traffic disruption. In such instances, night lighting would be required for safe working conditions, but the lights would be oriented away from any sensitive receptors nearby.

*Construction Deliveries*

*Equipment and Materials*

The construction of the Gen-Tie Line is expected to use approximately 100 pieces of construction equipment and support vehicles at various stages of construction. This would include equipment such as dozers, back-hoes, graders, bobcats, auger trucks, concrete mixer and pump trucks, cranes, fork lifts, puller trucks, tensioner trucks, winch trucks, bucket trucks, water trucks, fuel trucks, skip loaders, tractor trailer trucks, pick-up trucks/crew cabs, compressors, and generators. Most equipment would be brought to the individual sites when needed and would remain at those sites throughout the duration of the activities for which they are needed.

Deliveries of tower steel, hardware, conductor spools, concrete, and equipment would occur throughout the construction period. The equipment and material deliveries would originate from various locations in central California and would utilize regional highways and local roads to reach the work sites along the Gen-Tie corridor.
Concrete and Steel Deliveries

Concrete would be delivered to tower sites by concrete mixer trucks for pouring of the tower footings. It is expected that concrete would be supplied from ready-mix plants located near Coalinga. It is estimated that an average of 125 cubic yards of concrete would be required at each tower location, assuming monopoles with deep footings throughout. Given a concrete mixer truck capacity of 10 cubic yards, an average of 13 concrete deliveries would occur at each tower site. For the 57 tower sites in Kings County, there would be a total of 741 concrete deliveries over the 133-day construction period, or an average of 5.66 deliveries per day.

Deliveries of tower steel and other materials for tower installation would involve approximately 22 round trips by trucks for each tower. The 57 towers in Kings County would involve a total of 1,254 materials deliveries, or an average of 9.4 deliveries per day over the 133-day construction period on the Kings County Gen-Tie segment.

Operation and Maintenance of Gen-Tie Lines

After completion, the Gen-Tie Line would be inspected, maintained, and repaired in accordance with the proponent utilities’ procedures and regulatory requirements. Gen-Tie components would be inspected at least once per year for corrosion, equipment misalignment, loose fittings, and mechanical problems. Vegetation, landscaping, and agricultural crops in the vicinity of the towers and conductors would be maintained at clearance distances as required by applicable regulations and safety standards.

2.3 SURROUNDING LAND USES AND SETTING

The lands surrounding the Aquamarine project site consist mainly of agricultural lands along with related irrigation canals, ditches, wells, pump stations, power lines, and farm roads (see Figure 3 – Project Vicinity). The Kent South solar generating facility is located approximately 0.4 miles north, along with an adjacent substation and switching station. There is an unused former agricultural processing facility located 1.2 miles north on the east side of 25th Avenue. The Henrietta substation and peaker plant are located 2.1 miles north on the east side of 25th Avenue. To the east of the Aquamarine site are a series of five dispersed agricultural residences located along and near 22nd Avenue. These residences are located 1.3 to 1.8 miles from the eastern boundary of the Aquamarine site. The nearest ranch complex is the Shannon Ranch located approximately 2.0 miles southwest at the corner of Avenal Cutoff Road and Lincoln/Gale Avenue. The Shannon Ranch includes 20 housing units.

The nearest population centers include the community of Stratford located 3.0 miles east, the City of Lemoore located 7.0 miles northeast, the Santa Rosa Rancheria located 7.5 miles east, the City of Huron located 9.0 miles west, and the community of Kettleman City located 12 miles south. Naval Air Station Lemoore (NASL), and its associated base housing, is located 3.2 miles north of the Aquamarine project site. The Aquamarine Solar Project is partially located within an NASL flight approach/departure zone, and is also within the Military Influence Zone for NASL.

The lands in the vicinity or the Gen-Tie corridor are all in agricultural use, and comprise fallow fields, row crops, tree crops, and vineyards. The nearest structures are at the Stone Land Company Ranch, located on the south side of Nevada Avenue, which includes two dwellings and other ranch buildings.
2.4 RELATED PROJECTS

Approved and Pending Solar Projects

Related projects include 29 solar PV generating projects that have approved or pending Conditional Use Permit applications in unincorporated areas of Kings County, for a total potential generating capacity of 2,252 MW. To date, a total of 22 solar PV projects, with a total generating capacity of 852 MW, have been approved by Kings County. Of these, 17 solar projects have been completed or partially completed, for a total of 537 MW. The nearest approved solar projects to the Aquamarine site include the 22 MW Westside Solar Project (Phases 1 and 2), located directly north, and the 150 MW Mustang 2 Solar Project located adjacent to the project site on the east. An additional 7 solar PV projects, with a potential generating capacity of 1,400 MW, have pending CUP applications with Kings County, including the proposed Aquamarine project. The nearest of these are the 300 MW Slate Solar Project located to the east, the 250 MW Westlands Solar Blue project located adjacent to the south, and the 300 MW Daylight Legacy Solar Project located to the southwest of the project site. These related projects are considered in detail in the cumulative impact analysis in Section 4.21 Mandatory Findings of Significance. A table listing the details of these “cumulative projects” (Table 11) is contained in section 4.21, along with a County exhibit (Figure 10) showing the location of each.

Westlands Solar Park Master Plan

The Aquamarine project site lies within the boundaries of the Westlands Solar Park Master Plan area, which encompasses approximately 20,938 acres located to the north, west, and south of the project site. As discussed in Chapter 1. Introduction, the Master Planning process and associated programmatic CEQA review for the Westlands Solar Park (WSP) Master Plan and Gen-Tie Corridors Plan was completed in January 2018. This master planning process embodied a comprehensive approach for the long-term solar development of the Plan Area and the establishment of the planned gen-tie corridor for transmission of WSP solar generation to the State electrical grid. The Master Plan EIR provides program-level CEQA review for the WSP Master Plan and the Gen-Tie corridor to the Gates Substation. As individual solar projects are brought forward under the Master Plan, each project will be subject to CUP approval and project-specific CEQA review by Kings County, which will be accomplished through the preparation of Mitigated Negative Declarations (MNDs) or Supplemental Environmental Impact Reports (SEIRs), as appropriate. As discussed in Chapter 1. Introduction, these subsequent MNDs are intended to be tiered from the WSP Program EIR, as provided under CEQA. The environmental analysis in the PEIR provides an evaluation of the impacts of WSP solar development, as well as a comprehensive analysis of cumulative impacts associated with WSP development combined with other cumulative development in the Master Plan area. The cumulative analysis is updated in this MND (see Section 4.21) in order to reflect additional pending and approved projects which have been brought forward since the Program EIR was certified in January 2018.
2.5 OTHER PERMITS AND APPROVALS THAT MAY BE REQUIRED

The following permits and approvals for the Aquamarine Solar Project and Gen-Tie Line may be required from Kings County and other permitting agencies:

**County of Kings**

- **Tentative Parcel Maps** (or Lot Line Adjustments) to create parcels corresponding to the project boundaries.
- **Encroachment Permits** for work in County road rights-of-way, and for utility crossings at County roads.
- **Transfer Permits** obtained from Kings County Public Works Department for oversized or excessive loads on County Roads.
- **Building Permits** for all aspects of site preparation, grading, and construction for the project.

**Other Agencies**

- **San Joaquin Valley Air Pollution Control District (SJVAPCD):** 1) Indirect Source Review (ISR) under Rule 9510; 2) Approval of construction Dust Control Plans under Regulation VIII; 3) Portable Equipment Registration, under Rule 2280, for portable generators and compressors used during construction; 4) Permit to Operate, under Rule 2010, for any equipment greater than 50 horsepower resulting in emissions, e.g., standby generators.
- **Regional Water Quality Control Board – Central Valley Region (CVRWQCB):** Administration of General Permit for Storm Water Discharges Related to Construction Activities under the National Pollutant Discharge Elimination System (NPDES), including oversight of Storm Water Pollution Prevention Plans (SWPPPs).
- **State Water Resources Control Board (SWRCB):** As the agency with primary jurisdiction for NPDES permitting in California, applicants for projects subject to the Storm Water General Permit (referenced under Regional Water Quality Control Board above) are required to file a Notice of Intent (NOI) with the SWRCB indicating the intent to comply with the General Permit and to prepare a SWPPP.
- **California Department of Transportation (Caltrans):** Single-trip transportation permits for oversized or excessive loads on State highways. Permits are issued in coordination with the California Highway Patrol.
- **California Public Utilities Commission (CPUC):** Sole authority for approval of electrical system improvements to be constructed, owned or operated by PG&E, including substations, switching stations, and interconnections, under CPUC General Order No. 131-D. (Note: Since all elements of the Aquamarine Solar Project, including the on-site substation and off-site Gen-Tie Line are planned to be privately owned, the CPUC will have no jurisdiction over these project elements. The Point of Interconnection (POI) to the State electrical grid and the PG&E system will be at the Gates Substation in Fresno County. As such, the CPUC’s jurisdiction will be confined to the area within the perimeter fence line of the Gates Substation where terminations for the Gen-Tie Line will be completed.)
CHAPTER 3 – ENVIRONMENTAL DETERMINATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project involving at least one impact that is a “Potentially Significant” as indicated by the checklist on the following pages.

<table>
<thead>
<tr>
<th>Aesthetics</th>
<th>X</th>
<th>Agriculture and Forestry Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Air Quality</td>
<td>X</td>
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<tr>
<td>X</td>
<td>Cultural Resources</td>
<td>Energy</td>
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<tr>
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<td>Geology/Soils</td>
<td>Greenhouse Gas Emissions</td>
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<td>Hazards and Hazardous Materials</td>
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<td>Land Use/Planning</td>
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<td>Recreation</td>
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<tr>
<td>X</td>
<td>Transportation</td>
<td>Tribal Cultural Resources</td>
</tr>
<tr>
<td>Utilities/Service Systems</td>
<td>Wildfire</td>
<td></td>
</tr>
<tr>
<td>Mandatory Findings of Significance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DETERMINATION:

On the basis of this initial evaluation:

___ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

___ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the proposed proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

___ I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.

___ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

___ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been adequately analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable legal standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measure that are imposed upon the proposed project, nothing further is required.

Signature: [Signature]
Chuck Kinney, Deputy Director – Planning
Kings County Community Development Agency

Date: 5-17-17

Aquamarine Solar Project
Kings County CUP 17-04

Initial Study/Mitigated Negative Declaration
May 2019
CHAPTER 4 – EVALUATION OF ENVIRONMENTAL IMPACTS

4.1 AESTHETICS

<table>
<thead>
<tr>
<th>Excerpt as provided in Public Resources Code Section 21099, would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
<td>☐</td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
<td>☐</td>
</tr>
<tr>
<td>d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
<td>☐</td>
</tr>
</tbody>
</table>

Setting

Aquamarine Project Site

The 1,825-acre project site consists entirely of agricultural fields with no buildings or trees (see Figures 8a and 8b – Site Photos). There is an existing agricultural well near the west site boundary, approximately 0.7 miles south of Avenal Cutoff Road. The 70-kV Henrietta to Tulare Lake sub-transmission line runs through the middle of the site from north to south along the 25th Avenue alignment. Agricultural irrigation canals run through the site alongside the 25th Avenue alignment and through the site along Laurel Avenue, and several smaller ditches branch off to the south from the Laurel Avenue ditch within the site. A large agricultural drainage ditch runs along the Avenal Cutoff Road frontage of the project site.

The surrounding lands also comprise agricultural fields devoted exclusively to low growing row crops. Adjacent and nearby lands are the sites of three completed solar PV projects, comprising the Mustang, Orion, and Kent South solar projects located at the northwest corner of Avenal Cutoff Road and 25th Avenue. To the east of the project site are a series of five dispersed agricultural residences located along and near 22nd Avenue. These residences are located 1.3 to 1.8 miles from the eastern boundary of the Aquamarine site. The nearest ranch complex is the Shannon Ranch located approximately 2.0 miles southwest at the corner of Avenal Cutoff Road and Lincoln/Gale Avenue. The Shannon Ranch includes 20 housing units. The Stone Land Company Ranch, located on the south side of Nevada Avenue, approximately 5.0 miles southwest of the Aquamarine site, includes two dwellings and other ranch buildings. To the north, the nearest base housing at Lemoore Naval Air Station is located 3.2 miles from the project site.
Photo 1: Southward view across western portion of project site from western corner of site at Avenal Cutoff Road.

Photo 2: Northeastward view from southwest corner of site at Laurel Avenue.

Photo 3: Northward view from Laurel Avenue at 25th Avenue.
Photo 4: Southward view from Laurel Avenue at 25th Avenue.

Photo 5: Eastward view along Laurel Avenue from 25th Avenue.

Photo 6: Southwestward view from Laurel Avenue at east edge of site.
Photo 7: Northwestward view from Nevada Avenue at 25th Avenue.

Photo 8: Westward view along Nevada Avenue, east of Stone Land Company Ranch.

Photo 9: Eastward view from junction of Avenal Cutoff Road and Nevada Avenue.
Photo 10: Northward view across Avenal Cutoff Road from western corner of project site.

Photo 11: Northward view of Kent South solar generating facility and substation, located ½ mile north of the project site.

Photo 12: Eastward view of Westside Solar Project Phase 1, located ½ mile north of project site.
The Open Space Element of the 2035 Kings County General Plan describes the important scenic resources of the County. The key landscape features include the Kings River to the east and the foothills and mountains in the western portion of County. The project site is approximately 2 miles west of the Kings River, which has a relatively narrow riparian corridor in this reach. At this distance, the project site is not integral to, nor does contribute to, the scenic value of the river or its riparian corridor (Kings County 2010c). To the southwest, the Kettleman Hills rise to an elevation of about 1,200 feet at a distance of approximately 12 miles from the project site. Beyond these foothills, first ridge of the Coast Ranges reaches elevations of approximately 4,400 feet at a distance of about 40 miles. At these distances, the foothills and mountains make up a very small portion of the overall field of view from the project site.

There are no State, County or City-designated or proposed scenic highways or routes in the project vicinity. The only recognized scenic route in the County is the segment of SR-41 running through the southwest corner of the County as it enters the Coast Ranges at SR-33 and continues southwestward to the Kern County line and then on San Luis Obispo County. None of the roadways in the project vicinity are designated or proposed scenic routes.

Gen-Tie Line

The visual character of the lands surrounding the gen-tie corridor is defined by the rural and agricultural landscapes of the valley floor, with the lower foothills of the Diablo Range forming a visual backdrop to the west (see Figures 8c and 8d – Site Photographs). The agricultural landscapes along the gen-tie corridor includes several different cropping patterns, including tree crops, field crops, pasture, and fallow fields, which provide some variety and visual interest. A small number of residential and agricultural support facilities are dispersed throughout the sparsely settled lands in the vicinity. The only residences within view of the gen-tie corridor are 2 dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue east of Avenal Cutoff Road. There are no historic buildings, rock outcroppings, or other scenic resources within or near the gen-tie corridor. The gen-tie corridor includes a few scattered non-orchard trees, but none that are considered scenic resources.

Environmental Evaluation

a) Would the project have a substantial adverse effect on a scenic vista?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. The Aquamarine project site and Gen-Tie corridor consist of essentially flat agricultural land that is typical of the valley floor, with no topographic variation or features to provide visual interest or vantage points for panoramic views. The nearest locally significant scenic resource is the Kings River corridor which is located approximately 2 miles from the Aquamarine project site, and not within view of the Aquamarine site or gen-tie corridor. The only scenic vistas in the region are of the Kettleman Hills and Coast Ranges to the west and southwest, which are located at least 12 miles from the Aquamarine project site and 9 miles from the Gen-Tie corridor. The Aquamarine project’s solar arrays will not exceed 8 feet in height, and thus would not block views of the hills and mountains. Therefore, the impacts of the Aquamarine Solar Project and Gen-Tie Line on scenic vistas would be less than significant.
b) **Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** There are no State or County-designated or proposed scenic highways or routes in the vicinity of the Aquamarine site or Gen-Tie corridor, nor are there any recognized scenic resources or vistas in the immediate area (Caltrans 2011, Kings County 2010c). Additionally, there are no rock outcroppings or significant trees on the Aquamarine site or Gen-Tie corridor or in the surrounding area. Similarly, there are no historic buildings on or near the Aquamarine project site or in the vicinity of the Gen-Tie corridor that are listed in the Kings County General Plan Resource Conservation Element (Kings County 2010b) or elsewhere. In summary, there are no known scenic resources that would be substantially damaged by the construction of the Aquamarine Solar Project and Gen-Tie Line, and there would be no impact on such scenic resources.

c) **In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?** (Public views are those that are experienced from publicly accessible vantage point). **If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** The Aquamarine Solar Project would involve installation of solar arrays throughout the 1,825-acre project site. The solar arrays would be relatively low in profile, reaching a height of about 8 feet at maximum tilt. The inverters and transformers that would be dispersed throughout the site would have a maximum height of about 8 feet, and the meteorological stations would reach heights of about 10 feet. The tallest structural element at the on-site substation would be about 40 feet high, while approaching monopoles from the Gen-Tie Line would be 100 feet high. The solar facilities would be surrounded by perimeter fencing with an overall height of about 8 feet.

The Aquamarine Solar Project would replace the agricultural fields of the site with the relatively low profile structural elements of a solar generating facility. The rows of solar panels would be similar in scale to rows of tall corn or permanent tree crops. The hard edges of the solar equipment would contrast with the softer edges of the planted crops, but would not introduce a new dominant visual element that is substantially out of scale with its surroundings. In addition, over 90 percent of the project would be retained in vegetated ground cover, which would help visually integrate the project with its rural surroundings.

Although the project setting is predominantly rural and agricultural, there are existing structural elements in the immediate vicinity. These include the following: the Westside Solar Project Phase 1 located at the southwest corner of Avenal Cutoff Road and 25th Avenue; the Kent South/Orion/Mustang solar facilities, substation, and switching station at the northwest corner of Avenal Cutoff Road and 25th Avenue; the Henrietta substation and adjacent power plant to the north along 25th Avenue; and the former agricultural processing plant located on 25th Avenue just north of Avenal Cutoff Road. Therefore, the project would not introduce new structural elements to the area.
As discussed under ‘Setting’ above, the visual quality of the project site and its surroundings is relatively low. The land itself is flat and featureless, and the area is not part of a recognized scenic resource. The number of visual receivers in the area, who would experience the visual changes resulting from the project, is also low. There are no existing residences within at least 1.3 miles of the Aquamarine site, so no residential views would be affected by the project. The only public roads that pass within view of the project are Avenal Cutoff Road and Laurel Avenue. The project frontage along Avenal Cutoff Road is approximately 2,000 feet long, so passing motorists would have fleeting visual contact with the solar project. Laurel Avenue, which passes through the project, is very lightly traveled, so the number of passing motorists who would have visual contact with the project along this roadway would be small.

The Aquamarine Solar Project would result in a visual change of the project site from agricultural to solar generating facility. While this would represent a visual change to the project site, it would not result in a substantial visual change to the immediately surrounding area which already includes 4 solar generating facilities, 2 substations, a power plant, and an agricultural processing plant. The project area is characterized as an area of agricultural uses and certain non-agricultural uses, as specified in the Kings County Zoning Ordinance, which do not adversely affect agriculture. Given the relatively low visual quality of the site and its surroundings, and the very low number of visual receivers who would experience the change in visual setting, the introduction of a non-agricultural land use as represented by the Aquamarine Solar Project, within a visual setting that already includes considerable structural elements, would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Therefore, the visual impacts associated with the Aquamarine Solar Project would be less than significant.

**Gen-Tie Line**

**Less-than-Significant Impact.** With regard to the Gen-Tie Line, the towers supporting the power lines would constitute its dominant visual elements. The towers are planned to consist entirely of tubular steel monopoles, which would range in height from 100 to 180 feet. Conductors would be strung between the towers which would be spaced at intervals ranging from 600 to 1,320 feet. The planned use of monopoles instead of lattice towers would substantially reduce the profile of the towers and their visual effects. The gen-tie line would run alongside Nevada Avenue which passes entirely through flat agricultural landscapes where scenic value is limited. The only residences within one mile of the Gen-Tie Line are the 2 dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue east of Avenal Cutoff Road. These dwellings are set back 180 feet from the Gen-Tie corridor at its nearest point, and would be visually screened from the Gen-Tie Line by a dense stand of landscaping trees planted throughout the front setback area of the ranch property. The nearest monopole would be located to the west of the ranch complex which would minimize potential visual intrusion into the settings of the ranch dwellings. With the distance separation from the towers, and the screening of the conductors, and the utilization of steel monopoles, the Gen-Tie Line would not result in a substantial change to the visual character or quality of the setting of these residences.

Nevada Avenue is a very lightly traveled County road, so few travelers would observe the monopoles and conductors of the adjacent Gen-Tie Line. Given the generally low visual quality of the Gen-Tie setting, and the low level of potential visual impact upon existing residences and public vantage points along Nevada Avenue, the visual effects associated with the Gen-Tie Line would minimal. Therefore, the Gen-Tie project would not substantially degrade the existing visual character of public views of the site and its surroundings, and the impact would be less than significant.
d) **Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?**

The topics of lighting and glare are discussed separately below.

**Lighting**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** Under existing conditions, the Aquamarine project area is subject to night lighting from the solar generating facilities and substation at the corner of Avenal Cutoff Road and 25th Avenue, and from security lighting at the agricultural processing plant and the Henrietta substation/power plant complex to the north along 25th Avenue, as well as headlights from vehicles traveling on Avenal Cutoff Road and to a lesser extent Laurel Avenue. The Aquamarine Solar Project will introduce new sources of light to the area, although permanent exterior lighting will be mainly located at the site entrances, the operations yards, and the on-site substation. Lighting within the solar fields will be confined to the inverter/transformer pads, which will be activated only when needed by switch or motion sensors. There will be no lighting along any internal access driveways, or around the project perimeter. Permanent lighting would be no brighter than required to meet safety and security requirements, and would be hooded so as to be directed only on-site, as required under the County’s Development Code.

During the construction phase, the staging areas would have security lighting. Temporary night lighting would be needed if and when construction activity extends into the nighttime hours. As with lighting during facility operations, the temporary lighting would provide the minimum illumination needed and would be directed away from facility boundaries.

Potentially sensitive receptors to unwanted illumination from the project primarily include existing residences in the vicinity and travelers on Avenal Cutoff Road driving by the project. As mentioned, the nearest existing residences are at least 1.3 miles from the project site and would not be affected by project lighting. Travelers along Avenal Cutoff Road passing the project site would notice the increased light sources associated with the project. Since these motorists would already be subject to lighting from the new solar facilities and substation located a half-mile northeast along Avenal Cutoff Road, the project lighting would not introduce a new source of night lighting to a previously dark rural nighttime setting. Since all lighting within the Aquamarine Solar Project and the existing solar facilities to the northeast would be directed away from the roadway, the project lighting would not create direct illumination that could pose a safety hazard to passing traffic.

In summary, the Aquamarine project would introduce new sources of permanent and temporary nighttime lighting to the project area, although most of the solar facility would not be illuminated. Since there are no residential receivers in the vicinity, the lighting introduced by the project would have no impact to existing residences. Motorists passing by the project site would notice an increase in permanent night lighting, but the overall effect would be reduced by the presence of existing similar light sources nearby. Therefore, the lighting impacts resulting from the Aquamarine Solar Project would be less than significant.
**Gen-Tie Line**

**Less-than-Significant Impact.** With regard to the Gen-Tie Line, construction of the Gen-Tie facilities is expected to occur during daylight hours. However, in the event night construction may occasionally be required, temporary lighting would be required for security and safety. Night lighting may also be required for security at staging areas. However, it anticipated that any such lighting would be directed inward toward the work areas and that direct lighting beyond the work areas would be avoided. Night lighting at any given work site would be temporary since each tower would be completed in a matter of days, and works sites for conductor stringing would continuously shift along the Gen-Tie corridor. Therefore, the potential lighting impacts due to Gen-Tie Line construction would be less than significant.

Once completed, the Gen-Tie Line would not include lighting, so no new sources of light would occur. Therefore, the potential lighting impacts from the operation of the Gen-Tie Line would be less than significant.

**Glare**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** Glare is an intense light effect resulting primarily from the reflection of sunlight off reflective surfaces when the angle of the sun to the surface is such that sunlight is reflected toward the receiver, causing potential discomfort or distraction of the receiver, or potential impairment of vision under extreme conditions. The main source of potential glare from the project is solar panels, but other sources can include vehicle windshields and reflective building materials, as well as direct illumination.

All of the solar panels installed at the Aquamarine project will be composed of photovoltaic cells. Solar PV employs glass panels that are designed to maximize absorption and minimize reflection to increase electricity production efficiency. Untreated silicon reflects about one-third of incoming sunlight. To limit reflection, solar PV modules are constructed of dark, light-absorbing materials, and are given an anti-reflective coating or textured surface. With the addition of the anti-reflective coating or treatment, the reflectivity can be reduced to less than 4 percent of incoming sunlight (EE Times 2012). In comparison, the reflectivity of standard glass is over 20 percent, or about double that of uncoated solar panels. By contrast, concentrating solar thermal systems, which employ arrays of highly polished mirrors to refocus the radiation on a receiver tube or tower, reflect about 90 percent of the incoming sunlight (FAA 2010). (The potential for the project to create a source of glint or glare that would affect pilots stationed at NAS Lemoore is considered less than significant, and is discussed in further detail in Section 4.9 Hazards and Hazardous Materials.)

Further, PV solar systems are designed to maximize absorption of sunlight by keeping the panel surfaces oriented directly to the sun as much as possible. When the sun is high in the sky, sunlight light is reflected skyward. However, when the sun is low in the sky (i.e., at dawn or dusk), the angle of reflectance increases, thereby increasing the potential for reflection at or near ground level. The potential for ground-level reflection is greatest with fixed-tilt solar arrays, which are oriented lengthwise in an east-west direction. When the sun is very low in the sky at sunrise and sunset (i.e., in the east or west), there is a potential for sunlight to be reflected obliquely from the east-west oriented panels at a similarly low angle to observers at ground level. The potential for ground-level reflection is
substantially reduced in tracking systems, such as those planned for the Aquamarine Solar project, which are arranged in north-south oriented rows and allow panels to follow the sun across the sky from east to west. Since tracking systems minimize the angle of incident sunlight at the panel surface, the angle of reflectance is also smaller thus tending to direct reflected sunlight skyward even when the sun is low in the sky. Since tracking systems are arranged in north-south oriented rows, the potential for sunlight to be obliquely reflected to ground level receivers is further reduced since the sun is never low in the sky in a northerly or southerly direction.

Since solar panels are designed specifically to maximize absorption of sunlight and minimize loss of incident sunlight through reflection, the potential for glare is also greatly reduced even during occasional periods when sunlight from module surfaces may be reflected to ground-level receivers. The panels would therefore not be expected to result in intense glare that would adversely affect views in the area or cause discomfort to receivers.

Residences in the vicinity of solar facilities can be subject to potential low-intensity glare from solar panels. However, since there are no existing residences within at least 1.3 miles of the Aquamarine project site, there would be no potential glare effects upon residential receivers from the project.

Automobiles passing by the project solar facilities could be subject to low-intensity glare from nearby solar panels at certain times of day. As discussed above, the potential for glare would be greatest at sunrise and sunset when oblique reflections could be received at or near ground level, although ground-level reflection is expected to occur primarily with fixed-tilt mounting systems, and much less so with the tracker systems planned for the project. However, due to the low level intensive of reflection from the PV solar panels and the short duration of driver exposure to any low-intensity reflected light, traffic passing by the project would not be subject to significant visual impairment or a safety hazard due to potential glare.

In summary, the potential for glare effects from the project solar facilities to adversely affect daytime views or cause visual impairment would be less than significant. (See Section 4.9 Hazards and Hazardous Materials for discussion of potential glare hazard to aviation.)

**Gen-Tie Line**

**Less-than-Significant Impact.** With regard to the Gen-Tie Line, the transmission monopoles, conductors, and insulators could have potentially reflective surfaces that could cause glare. However, it is expected that the materials selected for the transmission projects would be non-reflective and non-refractive, or would be treated with non-reflective coatings. Therefore, the potential glare impacts from the Gen-Tie Line would be less than significant.

**REFERENCES – AESTHETICS**

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4.2 AGRICULTURE AND FORESTRY RESOURCES

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, including the Forest and Range Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

<table>
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<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
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<tr>
<td>a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</td>
<td>☐</td>
<td>□</td>
<td>□</td>
<td>☐</td>
</tr>
<tr>
<td>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>☐</td>
<td>☐</td>
<td>□</td>
<td>☐</td>
</tr>
<tr>
<td>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</td>
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<tr>
<td>d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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A comprehensive description of the agricultural setting of the Aquamarine Solar Project area is provided in the certified PEIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which is incorporated into this document by reference PEIR pursuant to Section 15150 of the State CEQA Guidelines. The description of the overall agricultural setting is found on pages 3.2-1 through 3.2-20 of the Draft PEIR (WWD 2017b). A description of the specific conditions on the Aquamarine Solar Project site and Gen-Tie corridor is provided below.

The discussion and analysis in this section is partly based on the Soil and Water Analysis Report prepared by Provost & Pritchard. The report is included in this document as Appendix A.

Agricultural Setting

Aquamarine Solar Project and Gen-Tie Line

The 1,825-acre Aquamarine project site consists entirely of agricultural fields and supporting features such as, irrigation canals and piping, unimproved farm roads, and electric power lines. In recent years, the site has been cultivated for winter wheat during the wet seasons and left fallow during the dry seasons.
Soils and Irrigation Water

According to the Natural Resources Conservation Service (NRCS) Soil Survey of Kings County, the majority of soils on the Aquamarine site consist of Lethent clay loam, which is rated as Land Capability Class 7s (non-irrigated) and 3s (irrigated). Approximately 5 percent of the site soils comprise of Calflax clay loam, saline-sodic, which also has a Land Capability Class rating of 7s (non-irrigated) and 3s (irrigated). Land Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture, grazing, forestland, or wildlife habitat. Class 3 soils have severe limitations that restrict the choice of plants or require special conservation practices, or both. The letter “s” indicates that the soil has soil limitations in the root zone such as salinity. Lethent clay loam has a Storie index rating of 41, and Calflax clay loam, saline-sodic, has a Storie index rating of 39. Soils with a Storie Index rating of 80 or greater are classified as Grade 1 or prime soils. The Lethent and Calflax soils on the site are classified as Grade 3 and Grade 4, respectively. Both soil units are saline-alkali and therefore are best suited to salt- and alkali-tolerant, drought resistant crops. These soils also are limited by very slow permeability, and have a high shrink-swell potential, and are highly corrosive to concrete and steel (NRCS 1986; NRCS 2006).

The saline conditions that are native to the Lethent and Calflax clay loams have been exacerbated on the project site by perched groundwater, poor natural subsurface drainage, and the application of insufficient water to leach salt from the root zone. Groundwater in the area is high in salinity, carbonates and bicarbonates, and boron. These groundwater conditions are typically above the maximums recommended for tolerant crops. In addition, the added salts from the groundwater further increase the salinity of the surface soils. Therefore, growing crops on the site utilizing solely groundwater is not feasible.

Historically, irrigation water for the site has been largely provided by imported surface water delivered through the Westlands Water District (WWD). (It is important to note, however, that since the early 2000s, the portions of the project site located east of the 25th Avenue alignment have been under the ownership of WWD, which has retired these lands from irrigated agriculture due to high soil salinity, perched groundwater, and poor subsurface drainage conditions. As such, these lands are no longer eligible to receive imported surface water for agricultural irrigation.) The maximum water allocation available to the privately-owned (and non-retired) northwestern portion of the site for agricultural purposes through WWD under its long-term contract with the federal Central Valley Project (CVP) is approximately 2.6 acre-feet per acre per year. (Note: The maximum allocation for agricultural uses is not the same as the maximum allocation for non-agricultural uses, also known as Municipal and Industrial (M&I) uses, which is 5 acre-feet per 160 acres for solar facilities, as discussed in section 2.2 Project Description.) However, the actual deliveries of CVP contract water to WWD have been dramatically curtailed in recent years due to prolonged drought conditions. Also, since WWD was one of the last water districts to be provided with federal water, it has a junior entitlement to CVP water, which places it at a very low priority for water deliveries during times of scarcity. During the last 10 years, WWD received an average of 35 percent of its contract water. In 2014 and 2015, WWD received 0 percent allocation of CVP water, and in 2016 received 5 percent of its contract water (WWD 2018). In order to meet the irrigation requirements of planted crops, the reduced surface water supplies are augmented with groundwater. But since the groundwater is high in salinity, the amount of groundwater that can be blended with the higher quality imported surface water is limited by the generally low salinity tolerance of crops. In addition, the annual “safe yield” of the WWD groundwater basin is 135,000 to 200,000 acre-feet, or about 0.24 to 0.35 acre-feet per acre over the 568,000 irrigable acres...
within Westlands Water District’s service area. Groundwater pumping in excess of safe yield results in long-term drawdown of the water table and is not sustainable (WWD 2013, WRP 2019).

The soil and water analysis report prepared by Provost & Pritchard in December 2018 found that the site soils have significant limitations related to salinity. (See the technical report in Appendix A for sampling test data.) The naturally occurring saline-sodic conditions at the site are exacerbated by poor natural drainage conditions and insufficient water supplies to promote leaching of salts from the root zone. The study found that lack of subsurface drainage systems and a sustainable disposal outlet are expected to increase soil salinity conditions. The report concluded that the adverse soil conditions and water quality and availability conditions make dry-farm seasonal sheep grazing a reasonably foreseeable agricultural activity to occur on the project site (P&P 2018).

Within the Gen-Tie corridor, the soils consist of Lethent clay loam (61%), Westhaven loam (30%), and Westhaven clay loam (9%). According to the Natural Resources Conservation Service (NRCS) Soil Survey of Kings County, the Lethent and Westhaven clay loams are both rated as Land Capability Class 7s (non-irrigated) and 3s (irrigated). Land Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture, grazing, forestland, or wildlife habitat. Class 3 soils have severe limitations that restrict the choice of plants or require special conservation practices, or both. The letter “s” indicates that the soil has soil limitations in the root zone such as salinity. Lethent clay loam has a Storie index rating of 41, and Westhaven clay loam has a Storie index rating of 65. Soils with a Storie Index rating of 80 or greater are classified as Grade 1 or prime soils. The Lethent and Calflax soils on the site are classified as Grade 3. Both soil units are saline-alkali and therefore are best suited to salt- and alkali-tolerant, drought resistant crops. These soils also are limited by very slow permeability, and have a high shrink-swell potential, and are highly corrosive to concrete and steel. Westhaven loam has a Land Capability Class 1 (irrigated) and 7c (non-irrigated), with the letter “c” indicating a climatic limitation such as temperature or lack of soil moisture. Westhaven loam has a Storie Index rating of 95. This soil unit has moderate permeability, moderate shrink-swell potential, slight erosion hazard, and is highly corrosive to uncoated steel and moderately corrosive to concrete (NRCS 1986).

**Farmland Mapping and Monitoring Program**

The California Department of Conservation (CDOC) administers and maintains the statewide Farmland Mapping and Monitoring Program (FMMP), under which farmland is mapped by several categories including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land. Figure 9 shows the most recent edition of the Important Farmland Map published by CDOC for areas of Kings County that include the Aquamarine Solar Project site, the Gen-Tie Line, and surrounding areas. As shown, the portion of the Aquamarine project site located west of the 25th Avenue alignment (approximately 872 acres) is mapped as “Farmland of Statewide Importance,” which is defined as lands which are similar to prime farmland but have minor shortcomings, and which have been in irrigated agriculture sometime during the prior four years. The portion of the project site located east of the 25th Avenue alignment (approximately 953 acres) is mapped as “Grazing Land,” which is defined as land on which the existing vegetation is suited to the raising of livestock. As discussed above, this eastern portion of the project site has been retired from irrigated agriculture by WWD.

The Kings County portion of the Gen-Tie Line is approximately 8.7 miles long. As shown in Figure 9, approximately 2.3 miles of the Gen-Tie Line pass over Prime Farmland, and another 2.4 miles pass through Farmland of Statewide Importance, and the final 4.0 miles pass through Grazing Land (CDOC 2017).
Important Farmlands

Figure 9
Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting the use of those lands to agricultural or compatible uses. There are two types of contracts available, including Land Conservation contracts, which have a term of 10 years, and Farmland Security Zone (FSZ) contracts, which have a term of 20 years. In return for placing their lands under these contracts, the restricted parcels are assessed at lower property tax rates. The Williamson Act stipulates that local governments adopt rules governing the administration of agricultural preserves, including rules related to compatible uses, provided the rules are consistent with the following principles of compatibility (Gov. Code § 51231).

Gov. Code § 51238.1. (a) Uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

1. The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserve.
2. The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.
3. The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Figure 10 shows the status of Williamson Act contracts on the Aquamarine Solar Project site, the Gen-Tie Line, and surrounding areas. Within the Aquamarine site, all contracted lands are located within Sections 9 and 16, which are located west of the 25th Avenue alignment. The contract information on parcels subject to the Williamson Act is listed in the following table.

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Source: CDOC, 2015
All of the project lands east of the 25th Avenue alignment (approximately 953 acres) are non-contracted lands and not subject to the Williamson Act. Along the Gen-Tie Line, the easterly 3.5-mile segment is not under Williamson Act contracts, while the westerly 5.3-miles are under either Land Conservation contracts or FSZ contracts (Kings County 2013a).

**Kings County Priority Agricultural Land Model**

The Kings County Community Development Agency has developed a model which considers additional factors in defining the value of prime farmland in order to rank County farmlands on a priority basis. The factors considered in the model include soil classification, crop value, availability of water resources, the need for open space buffers between urban areas, and the planned orderly growth of communities. The resulting mapping of Priority Agricultural Land, as mapped in the General Plan Resource Conservation Element (Figure RC-13) shows the following priority categories on the Aquamarine Solar Project site: westerly 872 acres (west of 25th Avenue alignment) – “Low-Medium Priority”; central 792 acres – “Low Priority”; and extreme easterly 161 acres – “Very Low Priority.” Along the Gen-Tie Line, the priority categories range from Low Priority to Medium Priority, with a small area of Medium High Priority located north of Nevada Avenue at Avenal Cutoff Road (Kings County 2010b).

**2035 Kings County General Plan**

The Land Use Map of the 2035 Kings County General Plan Land Use Element shows the land use designation on the eastern and northeastern 754 acres of the project site as “Exclusive Agriculture – 40 acre,” and the remaining 1,071 acres of the site as “General Agriculture – 40 acre.” Agricultural land use designations fall under the broader General Plan category of Agricultural Open Space. The lands traversed by the Gen-Tie Line are largely designated “General Agriculture – 40 acre,” with a small segment along Nevada Avenue near the 28th Avenue alignment designated as “Exclusive Agriculture – 40 acre.” In addition to a range of agricultural uses and ancillary activities, the General Plan LU Policy B7.1.3 allows solar voltaic generating facilities within the Agricultural Open Space areas of the County (Kings County 2010a).

**Kings County Zoning Ordinance**

As designated in the Kings County Zoning Plan, the entire Aquamarine site and all the lands traversed by the Gen-Tie Line are zoned “AG-40 General Agricultural-40” (Kings County 1964). As provided in Article 4 of the Kings County Development Code, commercial solar photovoltaic electrical generating facilities are permitted in this zoning district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission. Public utility uses such as transmission lines are permitted uses in this zoning district (Kings County 2016).

Article 11, Section 1112(B)(2) of the Kings County Development Code requires that commercial-scale solar photovoltaic electrical facilities conform to specified standards. Most of these standards relate to agricultural land. The required standards, and the project’s conformity with the standards, are addressed in item ‘b)’ in the Environmental Evaluation that follows (Kings County 2016).

**Kings County Right-to-Farm Ordinance**

The Kings County Code of Ordinances Section 14-36.1, the “Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings,” (Right-to-Farm) requires the approvals of rezonings, land divisions, zoning permits, and residential building permits include a condition that notice and disclosure be provided, which is to be recorded with the property.
title, that specifically acknowledges and notifies all future owners that they are in proximity to agricultural uses, and lists the types of operations and possible nuisances or inconveniences associated with farming such as equipment and animal noises; farming activities conducted on a 24-hour, 7-day a week basis; odors from manure, fertilizers, pesticides, chemicals, or other sources; the aerial and ground application of chemicals and seeds, dust; flies and other insects; and smoke. The ordinance states that the County does not consider normal farming operations involving these activities and effects to be a nuisance, and that current owners and future purchasers should be prepared to accept such annoyances or discomfort from normal, usual, and customary agricultural operations, facilities, and practices. This Right-to-Farm disclosure and acknowledgement establishes the primacy of agricultural operations over other land uses, and would reduce the potential for conflict which could adversely affect the continued viability of such adjacent agricultural operations (Kings County 2002).

**Kings County Williamson Act Implementation Procedures**

As required under the Williamson Act, the County has established procedures for implementation of the Act at the local level. Those implementation procedures include *Uniform Rules for Agricultural Preserves in Kings County*, which identifies the uses that shall be permitted as “Commercial Agricultural Uses,” and “Compatible Uses,” on lands under Williamson Act contracts, including Farmland Security Zone contracts. Permitted compatible uses include single-family residences, accessory structures, agricultural processing facilities, gas and oil wells, and public utility and public service structures and buildings, among other uses.

The current Kings County Williamson Act implementing procedures include the following uniform rules for agricultural preserves that pertain to solar photovoltaic facilities:

“Commercial solar photovoltaic system facilities that are designed primarily for the production of electrical energy for third party consumption are not compatible under the provisions of Government Code Section 51238.1(a). For purposes of determining compatibility, a project must be determined consistent with the principles of compatibility under Section 51238.1(a). Ordinarily, a solar project will be found compatible if the applicant provides a soil reclamation plan and financial assurances, and if the economic output of agricultural operations on the contracted parcel or parcels on which the project is located will be 90-percent of pre-project output. However, on November 26, 2013, the Board of Supervisors adopted Resolution No. 13-058, recognizing that due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens, circumstances exist on agricultural preserves located within that portion of Kings County south of State Route 198, west of State Route 41, and northeast of Interstate 5 that limit the use of much of the land with the territory for agricultural activities, such that it is reasonably foreseeable that certain parcels located there that currently are used for more intensive agricultural activities will be used in the near future for less intensive uses, including dry farm seasonal grazing. Notwithstanding the present agricultural use of the land, solar farming as a concomitant use with dry farm seasonal grazing or similar commercial agricultural activity may be deemed a compatible use within this region of the County if the applicant provides a soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, and taking into account surface water availability, ground water quality and availability, and soil conditions, that the proposed concomitant commercial agricultural operation is a reasonably foreseeable use of the land (Kings County 2013b).”
Environmental Evaluation

a) **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**Aquamarine Solar Project**

**Less-than-Significant Impact with Mitigation Incorporated.** The portion of the Aquamarine project site located west of the 25th Avenue alignment (approximately 872 acres) is mapped as “Farmland of Statewide Importance,” and the portion of the project site located east of the 25th Avenue alignment (approximately 953 acres) is mapped as “Grazing Land,” under DOC’s Farmland Mapping and Monitoring Program (CDOC 2015). The Aquamarine Solar Project would occupy the site for a period of 25 years. During operation of the solar facility, the majority of the site area would be vegetated with native grasses. At the end of the productive life of the solar generating facility, the facility would be decommissioned.

Unless mitigated, the installation of the Aquamarine Solar project on the site would result in the conversion of 872 acres Farmland of Statewide Importance on the site (i.e., all of the lands located west of the 25th Avenue alignment) to non-agricultural uses. This would represent a significant impact to Farmland. The solar development of the portion of the project site located east of the 25th Avenue alignment (i.e., “Grazing Land”) would result in a less-than-significant impact on Farmland, and therefore that portion of the project site does not require mitigation for Farmland impacts.

In order to reduce the project impacts to agricultural resources of the Aquamarine Solar Project site to less-than-significant levels, the following mitigation measures shall be implemented in the portion of the project site located west of the 25th Avenue alignment in conjunction with the solar development of that portion of the project site.

**Mitigation Measure AG-1: Agricultural Management Plan.** Prior to the issuance of a building permit, the applicant shall submit to Kings County an Agricultural Management Plan (AMP) that provides for the ongoing agricultural productivity of the 872-acre portion of the project site located west of the 25th Avenue alignment for the life of the project. The AMP shall specify that at least 90 percent of this area of the site shall be vegetated with grasses and forbs and shall be managed for dry farm seasonal sheep grazing. The AMP shall include specific provisions for soil preparation and revegetation including specifications for a seed mix which is appropriate to the soil and climatic conditions in the absence of irrigation, methods of avoiding invasive species, and a list of acceptable vegetation that meets the dietary needs of sheep. The AMP shall include detailed provisions to ensure the successful establishment of the planned vegetative cover, and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock and wildlife. The AMP shall also prescribe the management practices for sheep grazing. The AMP shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency. The AMP shall also comply with the requirements of the Kings County Development Code related to weed abatement and pest control.

Aquamarine Solar Project and Gen-Tie Line

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In order to ensure that the soils on the entire project site are reclaimed upon decommissioning of the solar facility, the following mitigation measures shall be implemented.

**Mitigation Measure AG-2: Soil Reclamation Plan.** Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the entire project site at the end of the project’s useful life. The Plan shall contain an analysis of general pre-construction conditions of the project site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including (1) removal of all above-ground and below-ground project fixtures, equipment, and non-agricultural driveways, (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition, (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site, and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the project area has been restored to pre-construction conditions shall be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the project site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions) until the entire project area has been restored to conditions equivalent to pre-construction conditions. All waste shall be recycled or disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the project use permit with the Planning Division staff.

**Mitigation Measure AG-3: Financial Assurance.** Prior to the issuance of a building permit, the applicant shall post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer’s Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, the applicant shall submit an updated Engineer’s Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if the amount of the assurances is sufficient to implement the Plan. The amount of the assurances must be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.

By requiring that agricultural use continues on the western portion of the project site for the life of the Aquamarine Solar Project, as specified in the Agricultural Management Plan in Mitigation Measure AG-1, the impact from the temporary and partial use of the Farmland of the project site for non-agricultural uses would be reduced to a less-than-significant level during the operational life of the project. By requiring that the entire project site be restored to its pre-project baseline conditions following decommissioning of the project, pursuant to the Soil Reclamation Plan specified in Mitigation Measure AG-2, as ensured with the accompanying Financial Assurance stipulated in Mitigation Measure AG-3, the impact from the potential permanent conversion of Farmland and grazing land of the project site to non-agricultural use would be reduced to a less-than-significant level. In conclusion, with the incorporation of the above-specified agricultural mitigation measures
into the project, the potential impact to the agricultural resources of the project site would be less than significant.

**Gen-Tie Line**

**Less-than-Significant Impact.** Approximately 54 percent of the 8.7-mile Kings County segment of the Gen-Tie Line passes through Prime Farmland or Farmland of Statewide importance. The Gen-Tie Line would result in permanent disturbance only at the sites of the monopoles, each of which would result in the permanent removal approximately 700 square feet of Farmland. The approximately 30 monopoles planned on lands mapped as Farmland would result in a total displacement of 21,000 square feet (less than ½ acre) of Farmland. This would represent a less-than-significant impact to Farmland.

**b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** The following discussion begins with a consideration of the Williamson Act, which is followed by a discussion of the applicable provisions of the Kings County Development Code, which constitutes the County’s zoning ordinance.

**Williamson Act**

Within the Aquamarine project site, the northwesterly 296.6 acres are under a Williamson Act Land Conservation Contract, and the remaining site area located west of 25th Avenue (574.6 acres) is subject to a Farmland Security Zone (FSZ) contract under the Williamson Act. The project applicant proposes to avoid conflict with the Williamson Act and FSZ contracts by maintaining a use on the site that meets the principles of compatibility pursuant to Government Code Section 51238.1(a) by maintaining reasonably foreseeable agricultural operations on the project site. This is discussed in detail below in terms of the applicable sections of the Government Code.

**Government Code Section 51238.1 (a) Uses approved on contracted lands shall be consistent with all of the following principles of compatibility:**

(1) **The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted land in agricultural preserves.**

**Discussion.** The productive agricultural capability of the western portion of the project site would be maintained during the life of the project by implementation of an Agricultural Management Plan which specifies the ongoing maintenance of vegetative cover over the western portion of the site for sheep grazing. Since more than 90 percent of the project site area would be maintained in vegetated cover, the use of the site for solar generation would not prevent the productive concomitant agricultural use of the site during project operation. The very light footprint of the solar generating facility upon the site would allow for the preservation of native soil cover in place and allow for low impact removal of solar arrays and electrical equipment at the end of the facility’s productive life. The long-term productive agricultural capability of the project site after decommissioning of the solar generating facility would be ensured through implementation of Mitigation Measure AG-2 which requires implementation of
a Soil Reclamation Plan and contains detailed provisions on decommissioning, soil conditioning, revegetation, waste disposal, monitoring, and follow-up measures to ensure that the site has been effectively restored to pre-project conditions.

Solar facility operations would generally involve low levels of on-site activity consisting mainly of occasional visits by maintenance crews, and periodic visits by panel cleaning and vegetation maintenance crews. Traffic generation would be very light, thus minimizing the potential for conflicts with agricultural vehicles and equipment on public roadways. Dust generation during project operations would not occur since the project would include no exposed soils that could be mobilized as windborne dust (e.g., over 90 percent of the site would be vegetated; approximately 8 percent of the site would consist of durable dust free road surface as required by the County’s Improvement Standards, and less than 1 percent of the site would be covered by impervious surfaces of equipment pads, the O&M building, and the paved project entries and parking areas). The potential introduction of invasive weed species by the project would be minimized through implementation of the Weed Abatement Plan required under Article 11, Section 1112.B.2.e of the Kings County Development Code. The County’s Right-to-Farm Ordinance would ensure that adjacent and nearby agricultural operations are not constrained by the need to reduce or eliminate minor incidental effects of cultivation upon adjacent and nearby solar facility operations. During project construction and decommissioning, the disturbance of soil could potentially generate dust. However, these project phases would be temporary in duration, lasting two years or less. Thus the impact of potential dust generation on the long-term productive agricultural capability of adjacent and nearby lands would not be significant. The less-than-significant impact with respect to dust generation would be further reduced through implementation of the Dust Control Plan to be approved by the San Joaquin Valley Air Pollution Control District prior to commencement of ground disturbing activities on the project site, pursuant to Air District Rule 8021.

(2) The use will not significantly displace or impair current or other reasonably foreseeable agricultural operations. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

Discussion. In accordance with Government Code Section 51231, Kings County has adopted procedures for implementing the Williamson Act at the local government level, including rules related to compatible uses that are consistent with the Williamson Act’s principles of compatibility. As discussed under ‘Agricultural Setting’ above, the current Kings County Williamson Act implementing procedures provide the following specific guidance in considering the compatibility of solar photovoltaic facilities in agricultural preserves:

“Ordinarily, a solar project will be found compatible if the applicant provides a soil reclamation plan and financial assurances, and if the economic output of agricultural operations on the contracted parcel or parcels on which the project is located will be 90-percent of pre-project output. However, on November 26, 2013, the Board of Supervisors adopted Resolution No. 13-058, recognizing that due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens, circumstances exist on agricultural preserves located within that portion of Kings County south of State Route 198, west of State Route 41, and northeast of Interstate 5 that limit the use of much of the land within the territory for agricultural
activities, such that it is reasonably foreseeable that certain parcels located there that currently are used for more intensive agricultural activities will be used in the near future for less intensive uses, including dry farm seasonal grazing. Notwithstanding the present agricultural use of the land, solar farming as a concomitant use with dry farm seasonal grazing or similar commercial agricultural activity may be deemed a compatible use within this region of the County if the applicant provides a soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, and taking into account surface water availability, ground water quality and availability, and soil conditions, that the proposed concomitant commercial agricultural operation is a reasonably foreseeable use of the land (Kings County 2013b).

As mentioned, only the 872-acre portion of the project site located west of the 25th Avenue alignment is subject to Williamson Act contracts, and therefore only that portion of the site is subject to the Williamson Act implementing procedures and guidance discussed above. The following is a point by point evaluation of the project’s consistency with the above County guidance with respect to the western portion of the project site.

First, the project site is located within the area identified in Board of Supervisors’ Resolution No. 13-058 as being subject to circumstances, such as reduced surface water deliveries and impaired soil conditions that limit the use of much of this land to dry farm seasonal grazing as a reasonably foreseeable use of the land.

Second, as discussed under item ‘a)’ above, Mitigation Measure AG-2 requires the implementation of a Soil Reclamation Plan for the project, and Mitigation Measure AG-3 requires the provision of financial assurances for implementation of the project Soil Reclamation Plan.

Third, as described in Section 2.2 Project Description, the project site plan retains permeable soil over 90 percent of the site area, which is to be vegetated with native seed mix for dry farm seasonal sheep grazing on the western portion of the site (which constitutes a reasonably foreseeable use of the land, as discussed in the first item above).

Fourth, there is substantial evidence that the project site is subject to reduced surface water availability, limitations due to groundwater quality and availability, and impaired soil conditions, such that dry farm seasonal grazing is a reasonably foreseeable use of the land. These conditions are discussed in turn below.

Surface Water Supply. The western portion of the project site is dependent upon imported CVP surface water deliveries through Westlands Water District (WWD), while the eastern portion of the site owned by WWD is not eligible to receive surface water deliveries. For a number of years, the WWD has been subject to curtailment of delivered water, ongoing drought conditions, environmental regulations, and the low priority position of the WWD, compared to other CVP contractors, in receiving its federal contract water during years of water shortage. Consequently, during the last 10 years, WWD received an average of 35 percent of its contract water, and in 2014 and 2015 WWD received 0 percent allocation of CVP water, and in 2016 received 5 percent of its contract water.
Groundwater Availability. According to the Westlands Water District, the safe yield of the WWD groundwater basin is equivalent to approximately 0.24 to 0.35 acre-feet per acre per year (i.e., safe yield of 135,000 to 200,000 af/yr over the 568,000 irrigable acres within the WWD service area = 0.24 to 0.35 af/ac/yr)(WWD 2013, WRP 2019). During years when sufficient supplies of irrigation water are available, the crops typically grown on the project site include wheat and cotton, which require approximately 1.5 and 2.5 acre-feet per acre per year of irrigation water, respectively. For comparison, tomatoes and other vegetables require about 1.5 af/ac/yr, and tree crops require 2.5-3.0 af/ac/yr, while alfalfa hay requires 3.5 af/ac/yr (WWD 2013). Thus, during years with curtailment of surface water deliveries, groundwater pumping does not provide enough water to make up the difference in supporting these crops. Overpumping beyond safe yield results in progressive lowering of the water table and is not sustainable.

Groundwater Quality. As shown in the Soil and Water Analysis Report prepared by Provost & Pritchard in December 2018 (included as Appendix A to this document), groundwater in the project area has high concentrations of sodium, chloride, boron, carbonates and bicarbonates, which limit the volumes that can be applied given the limited tolerance of crops to these elements. Therefore, growing crops utilizing solely groundwater is not feasible.

Soil Conditions. The Provost & Pritchard Report also states that the native soils of the site have naturally high salt levels, and have been exacerbated by poor natural drainage. The short supply of high quality imported water limits the amount of surface water that can be applied to pre-irrigate the soil to leach out some salts. Long term soil salinity conditions are expected to increase due to lack of a subsurface drainage system and a sustainable leachate disposal outlet. All of these conditions have progressively exacerbated soil salinity levels such that irrigated cultivation will cease to be feasible on the western portions of the site in the near term future, as is already the case in the eastern portions of the project site. Lab tests conducted by Provost & Pritchard of 21 soil samples taken from the western portion of the project site showed that all samples had excessive salt concentrations, with most samples containing several times more salt than the threshold level for crops. All samples also contained excessive levels of boron, which is toxic to plants and results in stunted growth and reduced yields. The Provost & Pritchard report concluded that due to severe limitation of reliable water availability and significant impairment of soil quality due to high salinity, the project site is not suitable for sustaining long-term agricultural crop production, and that a reasonably foreseeable agricultural use of the site would be dry land farming with seasonal grazing. (The full soil and water analysis technical report is included as Appendix A of this document.)

(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Discussion. The Aquamarine project is a self-contained solar generating facility and does include electrical infrastructure with excess capacity that could be used to support similar solar generating facilities on adjacent contracted land. The project is associated with a 230-kV Gen-Tie Line which would have more capacity than needed to convey project-generated power to the Gates Substation. However, this Gen-Tie Line is part of the approved Westlands Solar Park Master Plan and Gen-Tie Corridors Plan which has received programmatic CEQA review under a
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certified Program EIR. As such, the Gen-Tie Line provides for additional solar development on adjacent lands for which a Master Plan of solar development has been approved. The solar projects developed under the Master Plan would be subject to Kings County’s Conditional Use Permit requirements, which would include the same requirements described above for the maintenance of concomitant agricultural activity (as applicable) with the solar farms, and would be subject to the same requirements for implementation of reclamation plans when the solar facilities are decommissioned. As such, the planned solar development on adjacent lands would be compatible with the Williamson Act and would not result in the termination of existing Williamson Act contracts or Farmland Security Zone contracts.

The Aquamarine project would not result in the construction of new roadways, beyond internal maintenance driveways, that would provide new vehicular access to adjacent contracted land. Since the project would not include any excess roadway access or capacity that could serve adjacent contracted land, it would not induce the owners of such lands to remove adjacent contracted lands from agricultural use due to newly available roadway access.

Unlike urban development, the solar generating facility would not induce other development nearby, either for the purpose of providing support services or for taking advantage of services provided by the project. Solar generating facilities neither provide nor require urban services and therefore would not attract or induce other development nearby. Moreover, since such unplanned urban development would not be permitted on adjacent or nearby lands under the applicable agricultural zoning, the project would not result in the removal of agricultural preserves from adjacent contracted land through inducement of urban growth.

As discussed under Subsection (1) above, the low intensity of solar facility operations would generally minimize the potential for operations-related impacts to adjacent agricultural lands. Therefore, the project would not result in the removal of adjacent contracted land by way of introducing an incompatible land use to the site.

In summary, the proposed Aquamarine Solar Project would satisfy all of the Williamson Act principles of compatibility, as further defined by Resolution of the Kings County Board of Supervisors, for land use proposed for lands under Williamson Act contract, including the Farmland Security Zone contracts, in effect on the western portion of the project site.

**County Zoning**

As designated in the Kings County Zoning Plan, the entire site is zoned “AG-40 General Agricultural-40.” As provided in Article 4 of the Kings County Development Code, commercial solar photovoltaic electrical generating facilities are permitted in this zoning district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission. Therefore, the Aquamarine Solar Project would be consistent with the County’s agricultural zoning for the site upon the granting of the subject Conditional Use Permit for the project.

Article 11, Section 1112(B)(2) of the Kings County Development Code (which is the County zoning ordinance) requires that commercial-scale solar photovoltaic electrical facilities conform to specified standards. Most of these standards relate to agricultural land. As such, the required standards, and the project’s conformance with those standards, are addressed in turn below.
1. The proposed site is located in an area designated as either “Very Low Priority,” “Low Priority,” or “Low-Medium Priority” land according to Figure RC-13 Priority Agricultural Land (2035 Kings County General Plan, Resource Conservation Element, Page RC-20). “Medium Priority” land may be considered when comparable agricultural operations are integrated, the standard mitigation requirement is applied, or combination thereof.

Discussion. The General Plan Resource Conservation Element (Figure RC-13) shows the following priority categories apply to the Aquamarine Solar Project site: westerly 872 acres (west of 25th Avenue alignment) – “Low-Medium Priority”; central 792 acres – “Low Priority”; and extreme easterly 161 acres – “Very Low Priority” (Kings County 2010b). Therefore, it meets the requirement that solar facilities be located on lands designated as either “Very Low Priority,” “Low Priority,” or “Low-Medium Priority” agricultural land.

2. The proposed site is located within 1 mile of an existing 60 KV or higher utility electrical line.

Discussion. An existing 70-kV sub-transmission electrical line runs through the center of the project site along the 25th Avenue alignment. Therefore, the project would satisfy the finding that it is located within 1 mile of an existing 60-kV line or higher.

3. Agricultural mitigation is proposed for every acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance converted for a commercial solar facility. The agricultural mitigation shall preserve at a ratio of 1:1 an equal amount of agricultural acreage of equal or greater quality in a manner acceptable to the County that coincides with the life of the project. Agricultural mitigation on land designated “Medium-High” or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.

Discussion. Approximately 872 acres of the Aquamarine site is mapped as Farmland of Statewide Importance under the Department of Conservation’s Farmland Mapping and Monitoring Program. However, as discussed above, the project would include continued agricultural use, in the form of dry farm seasonal sheep grazing on more than 90 percent of the site area, concomitantly with the solar facility use on that portion of the project site. As discussed, dry farm seasonal sheep grazing is a reasonably foreseeable agricultural use of the site under the compatibility principles of the Williamson Act, and thus would not be considered a conversion of farmland to a non-agricultural use. Implementation of the Agricultural Management Plan for the western portion of the project, as required under Mitigation Measure AG-1, would ensure the maintenance of seasonal sheep grazing on that portion of the site for life of the project. Mitigation Measures AG-2 and AG-3 would ensure that all of the soils of the project site are reclaimed to pre-project conditions upon decommissioning of the solar facility. Therefore, the project would not result in the conversion of Farmland of Statewide Importance to non-agricultural use, and no further agricultural mitigation would be required. As such, this finding is not applicable to the proposed project.

4. The project includes a reclamation plan and financial assurance acceptable to the County that ensures the return of the land to a farmable state after completion of the project life, and retains surface water rights.

Discussion. As discussed above, Mitigation Measures AG-2 and AG-3 would require a soil reclamation plan along with financial assurance to ensure its implementation. The soil reclamation plan and financial assurance would be subject to approval by the County.
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Community Planning Agency prior to the issuance of construction permits. Since the project site has no surface water rights per se, there are no surface water rights to be retained. (CVP surface water has historically been supplied to the site by Westlands Water District, although only the westerly 872 acres of the site are currently eligible to received imported surface water. However, landowners do not hold any rights to receive these water deliveries, but must instead apply for surface water deliveries each year, and are provided water allocations based on CVP water availability for that year. As discussed above, CVP surface water deliveries have averaged 35 percent of contract amounts over the past 10 years. In extreme drought years, such as 2014 and 2015, no CVP water allocation was provided to WWD farmers.) Based on these facts, this project will comply with this provision of the Kings County Development Code.

5. The project includes a pest management plan and weed abatement plan to protect adjacent farmland from nuisances and disruption.

Discussion. The proposed project includes the preparation and implementation of a Pest Management Plan and Weed Abatement Plan, as required under the County Development Code. The Weed Abatement Plan would specify that native seed mixes used to revegetate the project site are free of weeds. The plan would also ensure that combustible vegetation on and near the project boundary would be actively managed during the construction and operational phases to minimize fire risk. Vegetation height would be kept low to the ground through a combination of sheep grazing and mechanical equipment. The gravel driveways to be constructed around the project perimeter would provide fire breaks. Herbicides would be applied if warranted by site conditions as specified in the Weed Abatement Plan, but would be restricted to those considered environmentally safe. The Pest Management Plan would reduce the potential for pests to inhabit the project site. The Pest Management Plan would set action thresholds, identify pests, specify prevention methods as a first course of action, specify control methods as a second course of action, and establish a quantitative performance goal of nuisance reduction to adjacent farmland. Rodenticide would be selected and used in a manner that minimizes impacts to protected biological species. Since the project would be implementing these measures under the Pest Management Plan and Weed Abatement Plan for the project, this standard would be met.

6. The project establishes internal access roads that do not exceed a maximum distance of 300 feet between lanes.

Discussion. As shown in Figure 4 – Site Plan, the project includes parallel internal access lanes with a minimum width of 20 feet at intervals of less than 300 feet. Therefore, the project would conform to this standard.

7. The project includes a solid waste management plan for site maintenance and disposal of trash and debris.

Discussion. A solid waste management plan would be prepared for the project to prescribe internal procedures for site maintenance and collection and disposal of solid waste during project construction and operation. The non-hazardous waste generated during construction and operation would be segregated on-site for recycling or disposal at a Class III landfill. Hazardous wastes generated during project construction and operation would be either recycled or disposed of at a Class I disposal facility, as required. The preparation and
implementation of a solid waste management plan, as proposed, would conform to this standard.

8. **The project site is not located on Williamson Act or Farmland Security Zone contracted land, unless it meets the principles of compatibility under Government Code section 51238.1(a). Otherwise, the contract is proposed for cancellation or is eligible and converts to a Solar Easement.**

*Discussion.* Within the project site, the northwesterly 296.6 acres are under a Williamson Act Land Conservation Contract, and the remaining site area located west of 25th Avenue (574.6 acres) is subject to a Farmland Security Zone (FSZ) contract under the Williamson Act. However, as discussed in detail above, the proposed Aquamarine Solar Project would satisfy all of the Williamson Act principles of compatibility, as further defined by Resolution of the Kings County Board of Supervisors, for land use proposed for lands under Williamson Act contracts, including Farmland Security Zone contracts.

In summary, the project is consistent with the zoning for the Aquamarine site, and would conform to all of the specific standards required in the Development Code for the granting of Conditional Use Permits for solar generating facilities. Therefore, the project would result in no impact with respect to conflicting with the applicable zoning as set forth in the County Development Code.

**Gen-Tie Line**

**Less-than-Significant Impact.** The lands traversed by the Gen-Tie Line are all within the A-40 General Agriculture-40 zoning district. The Kings County Development Code lists electrical transmission lines as a permitted use in this zoning district (Kings County 2016). In addition, the Kings County Williamson Act Implementation Procedures list electrical transmission lines as a permitted compatible use on contracted lands (Kings County 2013b). Therefore, the Gen-Tie Line would not conflict with existing zoning or a Williamson Act contract, and as such there would be no impact in this regard.

c) **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** Neither the Aquamarine project site nor the Gen-Tie corridor is currently zoned forest land, timberland, or Timberland Production per the cited statutes, and there are no lands in the vicinity that are so zoned. No portion of the Aquamarine project site, Gen-Tie Line, or adjacent land is zoned for forestland or timberland, according to the Kings County Zoning Plan (Kings County 1964). As such, the Aquamarine Solar Project and Gen-Tie Line would have no impact with respect to conflict with existing zoning for such land, or in terms of causing the rezoning of such lands.
d) **Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** There is no forest land on the Aquamarine project site, the Gen-Tie corridor, or in the vicinity. As such, the Aquamarine Solar Project and Gen-Tie Line would have *no impact* in terms of loss or conversion of forest land.

e) **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** As discussed under items ‘a)’ and ‘b)’ above, the Aquamarine project would implement several mitigation measures that would ensure maintenance of agricultural production on the western portion of the site for the life of the solar generating facility, and would ensure reclamation of the site soils to pre-project conditions upon decommissioning of the solar facility. As also discussed under items ‘a)’ and ‘b)’ above, the project would not induce conversion of other farmlands to non-agricultural uses by way of providing excess infrastructure capacities that could facilitate development on adjacent or nearby lands, or by way of introducing a land use that is incompatible with agricultural production. The project would involve no other changes that could result in the conversion of farmland to non-agricultural use. Therefore, the Aquamarine Solar Project would have a *less-than-significant impact* in this regard.

**Gen-Tie Line**

**Less-than-Significant Impact.** The Gen-Tie Line has been designed to minimize displacement and disruption to adjacent agricultural operations. To the extent practicable, the monopoles are planned to be placed at the edges of existing fields, and the conductor spans are planned to be long enough to minimize the placement of monopoles within the cultivated portions of fields. The overall footprint of the Gen-Tie Line would be very light, resulting in a total of less than one acre of displaced farmland. Thus the Gen-Tie Line would not adversely affect existing agricultural operations to the extent that farming on these lands would be impaired or impeded. Thus the Gen-Tie Line would not indirectly result in conversion of Farmland to non-agricultural use, and the impact would be *less-than-significant*.

---

**REFERENCES – AGRICULTURE AND FORESTRY RESOURCES**

Kings County 1964  Kings County. 1964. *Zoning Plan – County of Kings California.* Adopted April 7, 1964. [Available for review at Kings County Community Development Agency.]

http://www.countyofkings.com/home/showdocument?id=3866

http://www.countyofkings.com/home/showdocument?id=3110

http://www.countyofkings.com/home/showdocument?id=3112

http://www.countyofkings.com/home/showdocument?id=3168

http://www.countyofkings.com/home/showdocument?id=3166

http://www.countyofkings.com/home/showdocument?id=12535


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4.3 AIR QUALITY

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

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
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<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>b) 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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

This section is based on the air quality assessment report prepared by Illingworth & Rodkin (I&R) in December 2018. The I&R technical air quality report is contained in Appendix B of this document. (Please refer to the I&R report for detailed discussions of climate and air basin characteristics, existing air quality conditions, health effects of air pollutants, regulatory setting, regional attainment of air quality standards, air quality plans, and detailed technical analysis of air quality impacts.)

In preparing the air quality assessment for the Aquamarine Solar Project and Gen-Tie Line, Illingworth & Rodkin followed the San Joaquin Valley Air Pollution Control District (SJVAPCD) guidance for air quality analysis contained in its Guide for Assessing and Mitigating Air Quality Impact (GAMAQI)(SJVAPCD 2015).

Air Quality Setting

Aquamarine Solar Project and Gen-Tie Line

The primary air pollutants that would be emitted by the Aquamarine Solar Project and Gen-Tie Line include ozone (O₃) precursors (NOₓ and ROG), carbon monoxide (CO), and suspended particulate matter (PM₁₀ and PM₂.₅). Other regulated (or “criteria”) pollutants, such as lead (Pb) and sulfur dioxide (SO₂), would not be substantially emitted by the proposed project or project-generated traffic, and air quality standards for them are being met throughout the San Joaquin Valley Air Basin.

Existing Air Quality

The San Joaquin Valley experiences poor air quality conditions, due primarily to elevated levels of ozone and particulate matter.
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Ozone (O₃)

In the upper atmosphere, O₃ serves a beneficial purpose by reducing ultraviolet radiation potentially harmful to humans. However, when it reaches elevated concentrations in the lower atmosphere, it can be harmful to the human respiratory system and to sensitive species of plants.

O₃ is formed in the atmosphere by a complex series of photochemical reactions that involve “ozone precursors” that comprise two families of pollutants: oxides of nitrogen (NOₓ) and reactive organic gases (ROG). NOₓ and ROG are emitted from a variety of stationary and mobile sources, primarily vehicle exhaust.

Ozone concentrations in the San Joaquin Valley are typically higher than in coastal areas because of the greater frequency of hot days and stagnant conditions that are conducive to ozone formation. Ozone precursor pollutants are also carried to the valley from upwind urban areas.

Nitrogen Dioxide (NO₂)

The major health effect from exposure to high levels of NO₂ is the risk of acute and chronic respiratory disease. Nitrogen dioxide is a combustion by-product, but it can also form in the atmosphere by chemical reaction. Nitrogen dioxide is a reddish-brown colored gas often observed during the same conditions that produce high levels of O₃ and can affect regional visibility. Nitrogen dioxide is one compound in a group of compounds consisting of oxides of nitrogen (NOₓ). As described above, NOₓ is an O₃ precursor compound.

Particulate Matter (PM)

Regulated fractions of particulate matter include PM₁₀ which consists of particulate matter that is 10 microns or less in diameter, and PM₂.₅ which consists of particulates that are 2.5 microns or less in diameter. Both PM₁₀ and PM₂.₅ can be inhaled and cause adverse health effects. PM₂.₅ (including diesel exhaust particles) is thought to have greater effects on health because minute particles are able to penetrate to the deepest parts of the lungs.

Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as mining and demolition and construction activities, are more local in nature, while others, such as vehicular traffic, are more regional in their effect.

Carbon Monoxide (CO)

Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause dizziness and fatigue, and causes reduced lung capacity, impaired mental abilities and central nervous system function, and induces angina in persons with serious heart disease. Primary sources of CO in ambient air are exhaust emissions from on-road vehicles, such as passenger cars and light-duty trucks, and residential wood burning.

Toxic Air Contaminants

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs). Particulate matter from diesel exhaust is the predominant TAC in
urban air and is estimated to represent about 70 percent of the cancer risk from TACs. The vast majority of diesel exhaust particles (over 90 percent) consist of PM$_{2.5}$, which are the particles that can be inhaled deep into the lung.

**Air Quality Planning**

At both the State and federal levels, air quality standards have been established for a range of air pollutants. These standards specify the concentrations of each criteria pollutant that the public may be exposed to without adverse health effects. Air quality monitoring data for each criteria air pollutant are used to determine if an air basin is in violation of an ambient air quality standard. Areas that do not violate federal and state ambient air quality standards are considered to have "attained" the standards. The San Joaquin Valley as a whole does not meet State or federal ambient air quality standards for ground level O$_3$ and the State standards for PM$_{10}$ and PM$_{2.5}$. Accordingly, under the Federal Clean Air Act, the US EPA has classified the region as extreme nonattainment for the 8-hour O$_3$ standard and nonattainment for the 24-hour PM$_{2.5}$ standard. The US EPA classifies the region as attainment or unclassified for all other air pollutants, including carbon monoxide (CO). At the State level, the region is considered severe non-attainment for ground level O$_3$ and non-attainment for PM$_{10}$ and PM$_{2.5}$, and is considered attainment or unclassified for all other pollutants.

In response to not meeting the air quality standards for ozone and PM, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has prepared required attainment plans for each pollutant including the 2007 Ozone Plan and the 2012 PM$_{2.5}$ Plan. Both the ozone and PM$_{2.5}$ attainment plans include all measures (i.e., federal, state and local) that would be implemented through rule making or program funding to reduce air pollutant emissions.

**SJVAPCD Rules and Regulations**

In order to reduce emissions of ozone precursors (i.e., ROG and NO$_x$) and PM$_{10}$ from new land use development projects, and achieve the attainment plans for each pollutant, the SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) in 2005. The rule requires projects to reduce both construction and operational period emissions by specified amounts by applying the SJVAPCD-approved mitigation measures and/or paying fees to support off-site mitigation programs that reduce emissions. Fees apply to the unmitigated portion of the emissions and are based on estimated costs to reduce the emissions from other sources plus expected costs to cover administration of the program. Off-site emission reduction projects to be funded through ISR include retrofitting heavy-duty engines, replacing agricultural machinery and pumps, paving unpaved roads and road shoulders, trading out combustion-powered lawn and agricultural equipment with electrical and other equipment, as well as a number of other projects that result in quantifiable emissions reductions of PM$_{10}$ and NO$_x$. In accordance with ISR, the project applicant will submit an application for approval of an Air Impact Assessment (AIA) to the SJVAPCD.

SJVAPCD controls PM$_{10}$ from fugitive dust through several rules collectively known as Regulation VIII (Fugitive PM$_{10}$ Prohibitions). The purpose of these rules is to reduce ambient concentrations of PM$_{10}$ by requiring actions to prevent, reduce or mitigate anthropogenic (human caused) fugitive dust emissions. This applies to activities such as construction, bulk materials, open areas, paved and unpaved roads, material transport, and agricultural areas. Development projects are required to provide dust control plans that meet the regulation requirements. The Air District’s required dust control measures are summarized in item ‘b)’ below. Other Air District rules that apply to construction activities include Rule 4102, regarding creation of a nuisance, Rule 4601 which limits volatile organic compound emissions.
from architectural coatings, storage and cleanup, and Rule 4641 which limits emissions from asphalt paving materials.

Environmental Evaluation

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. The Air District’s guidance document (GAMAQI) does not include methodologies for assessing the effect of a project on consistency with clean air plans developed by the SJVAPCD. Regional clean air plans developed by SJVAPCD rely on local land use designations to develop population and travel projections that are the basis of future emissions inventories. Air pollution control plans are aimed at reducing these projected future emissions. The project land uses would not alter population and vehicle related emissions projections contained in regional clean air planning efforts in any measurable way, and would not conflict with achievement of the control plans aimed at reducing these projected emissions. Therefore, the project would not conflict with or obstruct implementation of efforts outlined in the region’s air pollution control plans to attain or maintain ambient air quality standards. This would be a less-than-significant impact.

As discussed above, in 2005 the SJVAPCD adopted the Indirect Source Review (ISR) Rule in order to fulfill the District’s emission reduction commitments in its PM$_{10}$ and Ozone attainment plans. The District has determined that implementation and compliance with the ISR would reduce the cumulative PM$_{10}$ and NOx impacts of growth anticipated in the air quality plans to a less-than-significant level. As discussed under item ‘b)’ below, the project proponent will be required to file an application for ISR Review to confirm that the project will meet its emissions reduction requirements. The final emissions calculations for the project will be performed in an Air Impact Assessment (AIA), as required under ISR to determine the specific ISR reductions (i.e., in tons) that are to be achieved through on-site and/or off-site measures. Upon its implementation of ISR emission reduction measures, the project would fulfill its share of achieving the District’s emission reduction commitments in the PM$_{10}$ and Ozone attainment plans. Therefore, the project would result in a less-than-significant impact since it would not conflict with or obstruct implementation of the applicable air quality plans.

b) Would the project 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)?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. The SJVAPCD has developed criteria to determine if a development project could result in potentially significant regional emissions. According to Section 7.14 of the GAMAQI (“Result in a Cumulatively Considerable Net Increase of...
Any Criteria Pollutant?"), any proposed project that would individually have a significant air quality impact (i.e., exceed significance thresholds for ROG or NOx) would also be considered to have a significant cumulative air quality impact. The GAMAQI further states that “a Lead Agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located” (SJVAPCD 2015, p. 66). For local impacts of PM2.5 from unrelated construction projects, the GAMAQI recommends a qualitative approach where construction activities from unrelated projects in the area should be examined to determine if enhanced dust suppression measures are necessary.

**Project-Specific Emissions**

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to the project operation. During construction, the project would affect local particulate concentrations primarily due to fugitive dust sources and would contribute to ozone and PM10/PM2.5 levels from exhaust emissions. Over the long-term, the project would result in an increase in emissions of ozone precursors such as ROG and NOx, primarily due to increased motor vehicle trips (employee trips, site deliveries, and on-site maintenance activities). The construction and operational emissions associated with the Aquamarine Solar Project and Gen-Tie Line are discussed below.

**Construction Dust**

Construction activities would generate particulate dust and other pollutants, which would temporarily affect local air quality in the surrounding area. Grading and site disturbance (e.g., vehicle travel on exposed areas) would likely result in the greatest emissions of dust and PM10/PM2.5. Windy conditions during construction could cause substantial emissions of PM10/PM2.5.

There are no residential receivers within 1.0 mile of the Aquamarine Solar Project site. The nearest residences consist of a series of five dispersed rural residences located along 22nd Avenue and Laurel Avenue at distances ranging from 1.3 to 1.8 miles east of the Aquamarine site. The next nearest residences consist of 20 single-family dwellings at the Shannon Ranch complex located at the southwest corner of Avenal Cutoff Road and Lincoln/Gale Avenue approximately 2.0 miles southwest of the project. There is one group of two ranch dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue, approximately 1.4 miles east of Avenal Cutoff Road, where the facades of both dwellings are 180 feet from the southern edge of the gen-tie right-of-way.

To control dust emissions, the District emphasizes implementation of effective and comprehensive control measures. Regulation VIII essentially prohibits the emissions of visible dust (limited to 20-percent opacity) and requires that disturbed areas or soils be stabilized. Prior to construction, the applicant would be required to submit a Dust Control Plan that meets the regulation requirements. As specified in District Rule 8021, these plans are subject to the review and approval by SJVAPCD before any ground disturbing activity can begin.
The provisions of Regulation VIII and its constituent rules pertaining to construction activities generally require:

- Effective dust suppression (e.g., watering) for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the workday or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.
- Cease outdoor construction activities that disturb soils during periods with high winds.
- Record keeping for each day dust control measures are implemented.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Landscape or replant vegetation in disturbed areas as quickly as possible.
- Prevent the tracking of dirt on public roadways. Limit access to the construction sites, so tracking of mud or dirt on to public roadways can be prevented. If necessary, use wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Suspend grading activity when winds (instantaneous gusts) exceed 25 mph or dust clouds cannot be prevented from extending beyond the site.

Anyone who prepares or implements a Dust Control Plan must attend a training course conducted by the Air District. Construction sites are subject to SJVAPCD inspections under this regulation. Compliance with Regulation VIII, including the effective implementation of a Dust Control Plan that has been reviewed and approved by the SJVAPCD, would reduce dust and PM\textsubscript{10} emissions to a less-than-significant level.

**Construction Exhaust Emissions**

Equipment and vehicle trips associated with construction would emit ozone precursor air pollutants on a temporary basis. Construction equipment would also emit diesel particulate matter (DPM), which is a Toxic Air Contaminant (TAC), which can adversely affect local air quality. (See item ‘c’ below for a discussion of potential TAC impacts.)

Emissions of air pollutants that could affect regional air quality were addressed by modeling emissions and comparing them to the SJVAPCD significance thresholds. Construction period air pollutant emissions were modeled using the CalEEMod model. Unmitigated and mitigated emissions from all phases of construction are shown in Tables 6a and 6b on the following pages.

Construction build-out scenarios were developed based on the construction schedules, and anticipated construction vehicle and equipment use. Construction emissions were predicted for the construction of the Aquamarine Solar Generating Facility, and the Gen Tie Line, and use of helicopter(s) in threading the power lines during the Gen-Tie construction. The emissions computed using CalEEMod for this assessment address use of construction equipment, worker vehicle travel, on-site vehicle and truck use, and off-site truck travel by vendors or equipment/material deliveries. Both criteria air pollutant exhaust and fugitive dust (i.e., PM\textsubscript{10} and PM\textsubscript{2.5}) were computed by CalEEMod. Helicopter emissions were computed separately from CalEEMod. (Note that the
unmitigated CalEEMod modeling does not include the effects of SJVUAPCD Regulation VIII that would substantially reduce fugitive PM_{10} and PM_{2.5} emissions.) The air quality calculations are included as attachments to the Air Quality Assessment, which is contained in Appendix B of this document. Attachment 1 includes the construction assumptions that were used to model emissions. Attachment 2 includes the CalEEMod modeling outputs for both uncontrolled and controlled emissions. Attachment 3 includes emissions associated with helicopter operations for line threading.

As shown in Table 6a, on the next page, the unmitigated construction emissions from the project would exceed the applicable Air District thresholds for NO\textsubscript{x}, and PM\textsubscript{10} in 2019, and would exceed the NO\textsubscript{x} threshold in 2020. Unless mitigated, this would represent a significant air quality impact.

### Table 6a

**Construction Emissions in Tons per Year – Unmitigated**

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction Phase</th>
<th>ROG</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>PM\textsubscript{10}*</th>
<th>PM\textsubscript{2.5}*</th>
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<td>2019</td>
<td>Solar Generating Facility</td>
<td>1.37</td>
<td>11.64</td>
<td>8.93</td>
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<tr>
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</tbody>
</table>

* Values reported for PM\textsubscript{10} and PM\textsubscript{2.5} include fugitive dust emissions and diesel exhaust emissions combined. Fugitive dust emissions do not include the effect of measures implemented under Regulation VIII.

Source: Illingworth & Rodkin, 2018

The SJVAPCD Indirect Source Review Rule (Rule 9510) applies to construction emissions from the project. Regardless of whether a project’s construction emissions of regional pollutants would exceed the Air District’s CEQA significance thresholds for each pollutant or not, the project is still required to comply with Rule 9510, to ensure that the project contributes its fair share of emissions reductions in order to achieve the basin-wide reduction targets established in the Air District’s Ozone and PM attainment plans. Rule 9510 requires that the project reduce construction exhaust emissions by 20 percent for NO\textsubscript{x} and 45 percent for PM\textsubscript{10} from calculated unmitigated levels.
SJVAPCD encourages reductions through on-site mitigation measures. (Note: The use of the term “mitigation” under Rule 9510 does not refer to mitigation of impacts under CEQA; i.e., the ISR emission reduction percentages are required without regard to whether the CEQA emissions thresholds are exceeded or not.) Fees to purchase or sponsor off-site reductions through SJVAPCD apply when on-site mitigation measures do not achieve the required percentage of emissions reduction. Using less-polluting construction equipment, such as newer equipment or retrofitting older equipment reduces construction emissions on-site. A combination of on-site and off-site measures can be implemented to meet the overall emission reduction requirements. The emissions reported in Table 6a do not include the reductions required by Rule 9510.

**Mitigation Measure AQ-1:** All off-road diesel construction equipment greater than 25 horsepower and operating at the site for more than 20 hours shall meet U.S. EPA Tier 3 engine standards for emissions of nitrogen oxides and particulate matter. The effect of this mitigation measure was modeled using CalEEMod.

**Mitigation Measure AQ-2:** Develop a plan to use off-road diesel construction equipment that meets U.S. EPA Tier 4 engine standards for emissions of nitrogen oxides and particulate matter, to the extent feasible. This measure recognizes that specialized equipment may not be reasonably available for this project. This measure was not modeled using CalEEMod.

**Mitigation Measure AQ-3:** To ensure that project construction-related NOx emissions are adequately mitigated, the project proponent shall execute a Voluntary Emissions Reduction Agreement (VERA) with the SJVAPCD. The amount of NOx emissions to be mitigated through this agreement would be the uncontrolled emissions minus the emissions reduction attributable to Mitigation Measures AQ-1 and AQ-2. Prior to the issuance of building permits, the project proponent shall submit evidence to the County demonstrating that the project’s construction-related emissions of NOx will be reduced to below the SJVAPCD’s CEQA significance thresholds of 10 tons per year NOx.

**Effectiveness of Mitigation**

Table 6b, on the next page, shows annual construction period emissions utilizing fugitive dust control measures (e.g., Regulation VIII), along with implementation of Mitigation Measures AQ-1, AQ-2, and AQ-3. Control measures required by SJVAPCD were selected as mitigation measures in the CalEEMod model. In addition, mitigation measures for equipment usage were selected in CalEEMod that include use of Tier 3 or newer diesel construction equipment. SJVAPCD regulations that would apply to construction activities include Regulation VIII, regarding dust control, Rule 4102, regarding creation of a nuisance, Rule 4601 which limits volatile organic compound emissions from architectural coatings, storage and cleanup, and Rule 4641 which limits emissions form asphalt paving materials.

Based on CalEEMod modeling, implementation of Mitigation Measure AQ-1 could reduce NOx emissions by over 20 percent and PM$_{10}$ exhaust emissions by over 40 percent. These would meet the ISR emissions reduction requirements. Use of Tier 4 equipment, under Mitigation Measure AQ-2, would further reduce NOx and PM$_{10}$ exhaust emission from on-site construction equipment. A substantial portion of the emissions associated with construction would be emitted by haul trucks or vendors that travel both near and away from the project sites. These emissions would be
unaffected by the application of Mitigation Measures AQ-1 and AQ-2. Mitigation Measure AQ-3 would indirectly address these emissions.

### TABLE 6B

**CONTROLLED/MITIGATED CONSTRUCTION EMISSIONS IN TONS PER YEAR**

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction Phase</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>PM$_{10}^*$</th>
<th>PM$_{2.5}^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Solar Generating Facility</td>
<td>0.89</td>
<td>7.95</td>
<td>9.41</td>
<td>1.77</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td>Gen-Tie – Kings County</td>
<td>0.36</td>
<td>5.38</td>
<td>7.13</td>
<td>5.39</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td>Gen-Tie – Helicopter Kings County</td>
<td>1.02</td>
<td>0.40</td>
<td>1.30</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>2019</td>
<td>Total 2019</td>
<td>2.27</td>
<td><strong>13.73</strong></td>
<td>17.84</td>
<td>7.17</td>
<td>1.38</td>
</tr>
<tr>
<td></td>
<td>ISR/VERA Reduction**</td>
<td>--</td>
<td>3.73</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2020</td>
<td>Solar Generating Facility</td>
<td>1.16</td>
<td><strong>10.62</strong></td>
<td>10.05</td>
<td>1.76</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>ISR/VERA Reduction**</td>
<td>--</td>
<td>0.62</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2021</td>
<td>Solar Generating Facility</td>
<td>0.03</td>
<td>0.25</td>
<td>0.30</td>
<td>0.06</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>ISR/VERA Reduction**</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

**Significance thresholds**

| Exceed threshold? | No | No | No | No | - |

* Values reported for PM$_{10}$ and PM$_{2.5}$ include fugitive dust emissions and diesel exhaust emissions combined.

** Minimum amount of reduction required to meet the CEQA threshold. Additional reductions may be required to meet ISR requirements.

To implement a VERA as required under Mitigation Measure AQ-3, the project proponent and SJVAPCD will enter into a contractual agreement in which the project proponent agrees to mitigate project-specific emissions by providing off-site emissions reduction funds to the SJVAPCD. The SJVAPCD’s role is to administer the implementation of the VERA consisting of identifying emissions reductions projects, funding those projects and verifying that emissions reductions have been successfully achieved. The types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors. The SJVAPCD has been successfully developing and implementing VERA contracts with project proponents since 2005. It is the SJVAPCD’s experience that implementation of a VERA is a feasible mitigation measure, which effectively achieves the emission reductions by supplying real and contemporaneous emissions reductions measures (SJVAPCD 2015, pp. 116-117). Therefore, the implementation of the executed VERA would be considered by the SJVAPCD to reduce the project’s air quality impacts to less-than-significant levels.
With implementation of required mitigation measures, construction period emissions of ROG, NO\textsubscript{x} and PM\textsubscript{10} would be below the thresholds used by SJVAPCD to judge the significance of construction air quality impacts under CEQA. Thus, while the residual construction-related emissions of ozone precursors and particulates may result in a small decrease in overall air quality, and may therefore have a small adverse health affect (as described earlier in this section under “Criteria Air Pollutants and Their Health Effects”), the overall health impact would be insignificant.

It was previously noted that under Rule 9510 (ISR), the project would be responsible for reducing construction PM\textsubscript{10} emissions by 45 percent, and NO\textsubscript{x} emissions by 20 percent. These reductions are required regardless of whether the project emissions exceed the CEQA significance thresholds. This CEQA analysis does not account for ISR reductions, as they are treated separately by the SJVAPCD. The final emissions calculations for the project will be performed in an Air Impact Assessment (AIA), as required under ISR to determine the specific ISR reductions (i.e., in tons) as well additional reductions required under the VERA for any emissions that are not mitigated to below CEQA significance thresholds through ISR reduction.

**Project Operation**

The operation of the Aquamarine Solar Project would result in emissions of regional air pollutants, primarily from project-generated traffic and maintenance equipment. The CalEEMod model was also used to predict annual emissions from operation of the Aquamarine Solar Project. (Note: Once completed, the Gen-Tie Line would involve very low levels of activity for annual inspections and maintenance. As such, the operational emissions associated with Gen-Tie operation would be negligible and thus were not estimated.) Since 2022 is the first full year that the Aquamarine project could be operational, that year was used as the analysis year. Maintenance vehicle and some off-road equipment usage would occur on-site as well as workers traveling and occasional equipment or vendor deliveries would result in some emissions. The annual emissions from project operation are shown in Table 7.

<table>
<thead>
<tr>
<th>Phase</th>
<th>ROG</th>
<th>NO\textsubscript{x}</th>
<th>PM\textsubscript{10}\textsuperscript{1}</th>
<th>PM\textsubscript{2.5}\textsuperscript{1}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Operations</td>
<td>0.12</td>
<td>1.24</td>
<td>8.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Significance Threshold\textsuperscript{2}</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Exceeds Threshold?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Includes both exhaust and fugitive dust emissions.


As shown in Table 7, the annual emissions from the project operation would not exceed the applicable Air District thresholds for ROG, NO\textsubscript{x}, PM\textsubscript{10}, or PM\textsubscript{2.5}. Therefore, the air quality impact of project operation, in terms of regional pollutants, would be *less than significant* under CEQA.
As discussed above under ‘Construction Exhaust Emissions’, the project is subject to SJVAPCD’s Indirect Source Review or Rule 9510 (ISR) to reduce NO\textsubscript{x} and PM\textsubscript{10} emissions. Although the project’s operational emissions of regional pollutants would not exceed the Air District’s CEQA significance thresholds for each pollutant, as shown in Table 7, the project is still required to comply with Rule 9510, to ensure that the project contributes its fair share of emissions reductions in order to achieve the basin-wide reduction targets established in the Air District’s Ozone and PM attainment plans. Under Rule 9510, the project would be required to reduce operational NO\textsubscript{x} emissions by 33.3 percent and operational PM\textsubscript{10} emissions by 50 percent over 10 years. Due to the nature of the project as an unstaffed facility in a rural location, it is not feasible to implement on-site reduction measures such as incentives for ridesharing or carpooling, or increasing transit access, or land use measures such as increased density near transit stops. Therefore, off-site mitigation fees will be paid by the applicant to achieve the required reductions under Rule 9510. These operational fees will be used to fund Air District air pollution reduction programs elsewhere and would fully mitigate the operational emissions under Rule 9510.

In summary, the operational emissions of ROG, NO\textsubscript{x}, PM\textsubscript{10} and PM\textsubscript{2.5} would be below the significance thresholds applied by SJVAPCD to determine the significance of operational air quality impacts under CEQA. Thus the project’s air quality impact from operational emissions would be less than significant.

Project Decommissioning

The Aquamarine solar facility would be decommissioned at the end of its productive life after 25 to 30 years of operation. The activities associated with deconstruction would be comparable to construction, but emissions are expected to be substantially lower given anticipated reductions in vehicle and equipment emissions that will be phased-in over time per State and federal regulations, and also because of the generally lower intensity of equipment use associated with decommissioning. At the time of decommissioning of the solar facility, emission levels for NO\textsubscript{x} and ROG are expected to be about 25 percent of construction emissions, and PM\textsubscript{10} and PM\textsubscript{2.5} (as exhaust) would be about 45 percent and 23 percent of construction emissions, respectively. Thus emissions during decommissioning are not expected to exceed SJVAPCD significance thresholds for any criteria pollutants. With the application of Regulation VIII dust control requirements, fugitive PM\textsubscript{10} emissions are likewise expected to be below the applicable significance thresholds, as they are for construction. Therefore, the emissions associated with project decommissioning would be less than significant.

Cumulative Emissions

Regional Air Pollutant Emissions

As discussed, cumulative ozone impacts would be considered significant if the project-specific emissions exceed the SJVAPCD significance thresholds for ozone precursors ROG or NO\textsubscript{x}, or the project is not consistent with the regional clean air plan. As discussed in Item ‘b) (and shown in Table 6b) above, project-specific construction emissions of ozone precursor pollutants (ROG and NO\textsubscript{x}) and PM were found to be less-than-significant after mitigation. As discussed in item ‘b)’ (and shown in Table 6a) above, project-specific operational emissions of ozone precursor pollutants (ROG and NO\textsubscript{x}) and PM\textsubscript{10} were found to be less-than-significant without mitigation. As discussed in item ‘a)’ above, the project would fulfill its share of achieving the Air District’s emission reduction...
commitments in the PM\textsubscript{10} and Ozone attainment plans through its obligation to implement ISR emission reduction measures under Air District Rule 9510. Therefore, the project would fully comply with the applicable air quality plans and would not conflict with or obstruct their implementation. Therefore, the project contribution to cumulative regional air quality impacts would be less than significant.

**Local Air Pollutant Emissions**

Construction period PM\textsubscript{10} emissions would be localized. With implementation of SJVAPCD Regulation VIII, construction period impacts would be less than significant. Additional construction that may occur in the area concurrently with the project would be subject to SJVAPCD Regulation VIII, as well as the District’s Indirect Source Review Rule 9510, which would reduce cumulative construction emissions to less-than-significant levels. In summary, the cumulative project impacts to localized air quality impacts from criteria pollutants for which the region is in non-attainment would be less-than-significant.

c) **Would the project expose sensitive receptors to substantial pollutant concentrations?**

**Aquamarine Solar Project and Gen-Tie Line**

**Less-than-Significant Impact.** Land uses that are considered sensitive to localized increases in emissions of air pollutants include hospitals, care facilities, schools, parks, and residential areas. The nearest sensitive receptors to the Aquamarine project site include: 1) existing residences at the Shannon Ranch, located 2.0 miles southwest at Avenal Cutoff Road and Lincoln/Gale Avenue; 2) a series of 5 rural residences located along and near 22\textsuperscript{nd} Avenue approximately 1.3 to 1.8 miles east of the site; 3) base housing at Lemoore Naval Air Station located 3.2 miles north of the project site. The only residences near the Gen-Tie Line are 2 dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue east of Avenal Cutoff Road.

The two main types of pollutants that can occur in high localized concentrations are carbon monoxide from vehicular emissions and Toxic Air Contaminants (TACs) from diesel exhaust. Other pollutants, such as lead (Pb) and sulfur dioxide (SO\textsubscript{2}) would not be substantially emitted by the project, and air quality standards for them are being met throughout the San Joaquin Valley Air Basin. The potential for the project to result in substantial concentrations of CO or TACs is discussed below.

**Carbon Monoxide**

**Aquamarine Solar Project and Gen-Tie Line**

Project traffic would slightly increase concentrations of carbon monoxide along roadways providing access to the project. Since the major source of carbon monoxide (CO) is automobile traffic, elevated concentrations of CO occur near areas of high traffic volume and congestion. Emissions and ambient concentrations of CO have decreased greatly in recent years. These improvements are due largely to the introduction of cleaner burning motor vehicles and reformulated motor vehicle fuels. No exceedances of the State or federal CO standards have been recorded at any of San Joaquin Valley’s monitoring stations in the past 15 years. The San Joaquin Valley Air Basin has attained the State and National CO standards.
In order to determine where a project has the potential to result in a violation of a CO standard, the SJVAPCD applies the following screening criteria: 1) the level of service (LOS) on one or more streets or intersections would be reduced to LOS E of F by the project, and; 2) the project would substantially worsen the LOS at a street or intersection in the vicinity operating at LOS F under pre-project conditions. As discussed in section 4.17 Transportation, all roadway segments that would be affected by project traffic operate at LOS B or C under pre-project conditions, and the construction of the Aquamarine Solar Project and Gen-Tie Line will not result in a degradation of these service levels. Since neither of the SJVAPCD screening criteria would thus be met, the Aquamarine Solar Project and Gen-Tie Line would not result in a violation of the CO standard and therefore would result in a less-than-significant impact in terms of exposing sensitive receptors to substantial concentrations of carbon monoxide.

**Toxic Air Contaminants**

The Toxic Air Contaminant (TAC) that is relevant to the Aquamarine Solar Project and Gen-Tie Line is Diesel Particulate Matter (DPM), which would be emitted by diesel-fueled equipment and vehicles during construction, and by diesel-fueled vehicles used during project operations including worker vehicles, delivery trucks, and maintenance vehicles.

**Aquamarine Solar Project**

For the Aquamarine project, the highest daily levels of DPM would be emitted during construction activities from use of heavy-duty diesel equipment such as bulldozers, excavators, loaders, graders and diesel-fueled haul trucks. However, these emissions would be intermittent, vary throughout the project site area, and be of a temporary duration (approximately 2 years of total construction activity). During project operations, low-level DPM emissions would result from worker vehicles and maintenance activities, but they would be constant over the lifetime of the project. Operational DPM emissions would mainly result from the use of pickup trucks with a portable water trailer (and pump) which would be used for panel cleaning.

Levels of DPM emissions can be generally inferred from PM$_{10}$ emissions, of which diesel exhaust constitutes a substantial component. Tables 6a and 6b, above, show that PM$_{10}$ emissions from solar project construction would be well below the applicable significance threshold. Table 7, above, shows that PM$_{10}$ emissions from operational activities are also well below the significance threshold.

Because of the relatively small levels of DPM emissions during project construction and operation, and due to the substantial distances to the nearest sensitive receptors (e.g., the nearest residence is at least 1.3 miles from the nearest project boundary), DPM emissions from project construction would disperse to negligible levels at the nearest receptor locations, and thus the health impacts associated with exposure to DPM from project construction and operation are not anticipated to be significant. Therefore, the Aquamarine Solar Project would result in a less-than-significant impact in terms of exposing sensitive receptors to substantial concentrations of Toxic Air Contaminants.

**Gen-Tie Line**

There are 2 sensitive receptors (residences) at the Stone Land Company Ranch located approximately 180 feet from the gen-tie corridor across Nevada Avenue. It is anticipated that nearest transmission towers would be located approximately 300 feet from the nearest dwelling at
the Stone Land Company Ranch. Construction of the gen-tie towers would proceed quickly. The total time required at each tower site for clearing, grading, excavation of footings, and tower assembly and erection, and clean up, would be 1 to 2 weeks. The area subject to temporary grading at each tower site would be approximately one acre, so the duration of grading equipment operation would be brief. Similarly, the time required for auguring holes for the concrete footings at each tower site would also be short.

The maximally exposed sensitive receptor along Nevada would be 300 feet or more away from the nearest tower site. However, even under worst-case conditions with the nearest tower placed in proximity to the maximally exposed receptor, the total duration of nearby construction could be up to two weeks, but likely much shorter, with total operating time for diesel equipment shorter still. Construction of other towers and access driveways in the vicinity would occur at least 800 feet away and farther. At this distance, most diesel particulates would be dispersed and the concentrations reaching the receptor locations would be low.

Operational emissions would be negligible given the very low frequency of inspection and maintenance activities that would take place at the nearest tower. The very low level of exhaust emissions associated with construction of the Gen-Tie Line is indicated by the low levels of PM$_{10}$/PM$_{2.5}$ estimated for Gen-Tie construction.

Given the very brief duration of construction that would occur at the nearest residential receptor, and considering the negligible operational emissions, and the lifetime exposure period considered in evaluating cancer risk, it is expected that the increased cancer risk at the maximally exposed receptor would be very low and would be well below the risk threshold of 20 in 1 million. Therefore, the overall health risk due to emissions of diesel particulate matter from construction of the Gen-Tie Line would be less than significant.

Cumulative Toxic Air Pollutant Impacts

Aquamarine Solar Project

With respect to cumulative emissions of Toxic Air Contaminants (TACs), it is important to note again that DPM concentrations diminish rapidly from the source. Pollutant dispersion studies have shown that there is about an 80 percent drop off in DPM concentrations at approximately 1,000 feet from the source (CARB 2005). Thus multiple sources of DPM emissions must all be proximate to a receptor to have an additive effect to DPM concentrations at the receptor site. Since the nearest sensitive receptors to the Aquamarine Solar Project are at least 1.3 miles from the nearest site boundary, most if not all DPM emissions from the project would disperse into the atmosphere before reaching the nearest sensitive receptor locations.

While the SJVAPCD does not have specific significance criteria for assessing cumulative health risks, the SJVAPCD significance criterion of an increase in cancer risk of more than 20 in a million persons from an individual facility or project over a 70-year lifetime for the maximally exposed individual can be used as a conservative measure of cumulative significance (SJVAPCD 2014b). This significance criterion is applied to individual projects where there is a potential for a significant health impact to nearby sensitive receptors. The use of this same threshold for cumulative TAC impacts is stringent compared to thresholds being considered elsewhere. For example, in preparing the updated draft
CEQA Guidelines for the Bay Area Air Quality Management District, the BAAQMD presented substantial evidence in support of a cumulative TAC significance criterion of an increased cancer risk of more than 100 persons per million persons (BAAQMD 2009). This threshold applies to projects that are located within 1,000 feet of the proposed project. (The effects of projects outside this distance are only considered by lead agencies if they are large enough to have unique effects (e.g., ports or refineries)(I&R 2018)). To illustrate the 20 in 1 million criterion, the TAC impact associated with the construction of a 1 million square-foot commercial development (e.g., a large regional shopping center) would fall to well below the significance threshold (i.e., cancer risk would be less than 10 cases per million) at a distance of 300 feet from the project site (BAAQMD 2010).

Applying the 1,000-foot criterion to define the geographic scope of the cumulative TAC analysis, there are four solar projects within this distance from the Aquamarine site (i.e., Westside Phase 2, Mustang Two, Slate, and Solar Blue). The combined construction intensity (i.e., number of diesel emitting vehicles and equipment in operation) from these five solar PV projects (including Aquamarine) would be less than that of a regional shopping center. In addition, the nearest receptors that would be potentially subject to cumulative DPM emissions would be 1.3 miles from the Aquamarine Solar Project site, and at least 1.0 miles from the nearest of the five cumulative projects. These distances are at least 18 times farther than the 300-foot that TAC concentrations in the shopping center example would fall to well below the significance threshold. It should also be considered that DPM would be emitted from solar projects only during their relatively brief construction periods (i.e., up to 3 years depending on project size), which is far less than the 70-year exposure time considered in health risk assessments for comparison to the significance threshold. Thus, it is not expected the cumulative effects would result in an increased cancer risk above 20 in one million at the nearest sensitive receptor common to the cumulative approved and pending solar projects in the vicinity if the Aquamarine project. Therefore, the project contribution to the cumulative health risk impact would not be significant, and the cumulative health risk impact associated with the Aquamarine Solar Project would be less-than considerable.

**Gen-Tie Line**

There is one solar project that would be constructed in proximity to the Gen-Tie Line. The southern portion of the Daylight Legacy Solar Project could be under construction at the same time as the adjacent segment of the Gen-Tie Line. The only sensitive receptors in the vicinity are the two dwellings located at the Stone Land Company Ranch, which is located 2.5 miles west of the nearest point at which diesel exhaust would be generated by both the Gen-Tie project and the Daylight Legacy project. As discussed above, the Gen-Tie construction activity would progress relatively quickly from one monopole site to the next, so the duration of TAC emissions at any given location would be no more than two weeks. Similarly, heavy equipment activity at the southern end of the Daylight Legacy project would also be short in duration. Considering that TAC concentrations would be all but fully dissipated at a distance of 2.5 miles to the nearest sensitive receptors, and given the very brief exposure periods at the sensitive receptor locations, there is no potential that cumulative health risk would exceed the significance threshold of 20 addition cancer cases in one million. Therefore, and the cumulative health risk impact associated with Gen-Tie construction would be less-than significant, and the project contribution would not be cumulatively considerable.
d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Aquamarine Solar Project and Gen-Tie Line

**Less-than-Significant Impact.** During construction, the various diesel powered vehicles and equipment in use on the Aquamarine project site and Gen-Tie corridor would create localized odors. These odors would be temporary and would dissipate relatively quickly and thus would not likely be noticeable for extended periods of time beyond the project boundaries. For the Aquamarine project, most if not all diesel odors carried off-site would disperse into the atmosphere before reaching the nearest sensitive receptors located at least 1.3 miles away. For the Gen-Tie Line, construction occurring in proximity to the Stone Land Company Ranch could result in noticeable odors at the two residences in that ranch complex; however, the generation of diesel odors at that location would be relatively brief and would largely dissipate before reaching the affected residences. Therefore, the potential impacts due to odors would be less than significant. There are no other emissions sources associated with the Aquamarine Solar Project and Gen-Tie Line. Other than emissions discussed under previous items in this section, the Aquamarine Solar Project and Gen-Tie Line would not result in other emissions, including emissions leading to odors, adversely affecting a substantial number of people; therefore, the impact would be less than significant.

---

**REFERENCES – AIR QUALITY**

**BAAQMD 2009**

**BAAQMD 2010**

**CARB 2005**

**I&R 2018**

**SJVAPCD 2014a**
Chapter 4 – Evaluation of Environmental Impacts
4.3 – Air Quality


### 4.4 BIOLOGICAL RESOURCES

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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 U.S. Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

This section summarizes the analysis and conclusions of the biological assessment report prepared by Live Oak Associates (LOA) in May 2019. The LOA report is contained in Appendix C of this document.

### Biological Setting

**Biotic Habitats/Land Uses**

**Aquamarine Solar Project Site**

The entire 1,825-acre Aquamarine project site consists of agricultural fields. The site is currently cultivated for winter wheat during the wet season and is typically left fallow during the dry season. There is an existing on-site agricultural well near the western boundary of the project site. The 70-kV Henrietta to Tulare Lake sub-transmission line runs in a north-south direction through the center of the site along the 25th Avenue alignment. Two large agricultural canals run through the center of the site. One canal runs in a north-south direction along the east side of the 25th Avenue alignment, and the other canal runs in an east-west direction along the south side of Laurel Avenue. Also, a large
agricultural drainage ditch runs along Avenal Cutoff Road on the northwest frontage of the project side. Smaller irrigation canals and ditches are present in the eastern half of the site.

Regular agricultural activities on the site create unsuitable habitat for most native amphibian, reptile, bird, and mammal species. Nonetheless, a number of animal species are expected to use the disked field, especially in times where diskng is not recent. Pacific chorus frogs and western toads may use the adjacent irrigation canal to the east for breeding and may also disperse through the adjacent fields during the winter and spring or when the fields are not regularly disked. Reptile species that may forage in this habitat include lizards such as the side-blotched lizard and western whiptail, and snakes such as the gopher snake, common kingsnake, coachwhip, and glossy snake.

Resident bird species expected to use this habitat are common species throughout the region and would include such species as Brewer’s blackbirds, brown-headed cowbirds, and European starlings. Wintering birds that may utilize the disked fallow field are also common species throughout the region and would include such species as savannah sparrow, American pipit, and Say’s phoebe. Summer migrants such as the barn swallow may forage on the site.

Burrowing rodent activity in the field is expected to be minimal due to the ground disturbance regime. Botta’s pocket gopher burrows may occur within the site, and California ground squirrel burrows may occur along the perimeters of agricultural fields.

The Aquamarine site offers limited foraging opportunities for mammalian and avian predators. Raptors such as red-tailed hawks, Swainson’s hawks, great horned owls, burrowing owls, and barn owls may occasionally forage on the site, and disturbance-tolerant mammalian predators such as raccoons, striped skunks, coyotes, and red foxes may occasionally forage on or pass through the site.

**Gen-Tie Corridor**

The Gen-Tie Corridor within Kings County consists of agricultural lands similar to those of the Aquamarine site; however, the Gen-Tie corridor includes fallow/pasture land, orchards, and row crops with a few dispersed agricultural residences and farm buildings. Much of the Gen-Tie corridor supports roadside ditches and irrigation basins, all of which will be avoided by Gen-Tie construction. The Gen-Tie corridor would be expected to support the same species as the Aquamarine site except for an increase in potential for nesting raptors, since trees exist along the corridor, unlike the Aquamarine site.

**Special Status Plants and Animals**

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. (See LOA’s biological report in Appendix C for a full description of applicable laws and regulations.) A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special status species.”
A number of special-status species occur in the project vicinity. The LOA biological report lists a total of 3 plant species and 36 animal species with potential to occur in the project area. All three of the listed plant species (California jewel-flower, San Joaquin woollythreads, and round-leaved filaree) are considered to be absent from the project site. Twenty-one animal species are either absent or are considered unlikely to occur on the Aquamarine site or Gen-Tie corridor. These include: vernal pool fairy shrimp, valley elderberry longhorn beetle, California tiger salamander, western spadefoot, western pond turtle, Temblor legless lizard, coast horned lizard, blunt-nosed leopard lizard, giant garter snake, California glossy snake, San Joaquin whipsnake, American white pelican (nesting), black swift, Vaux’s swift, western yellow-billed cuckoo, Nelson’s antelope squirrel, giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat, Tulare grasshopper mouse, and ringtail.

An additional 15 animal species may regularly or occasionally utilize the Aquamarine site and Gen-Tie corridor for foraging, including the western snowy plover, mountain plover, white-faced ibis, Swainson’s hawk, northern harrier, white-tailed kite, western burrowing owl, long-eared owl, loggerhead shrike, tricolored blackbird, Townsend’s big-eared bat, pallid bat, California mastiff bat, American badger, and San Joaquin kit fox. The Project Site does not provide regionally important foraging habitat for these species. Migrant species such as the mountain plover pass through or over many types of habitats en route to breeding or wintering habitat. White-faced ibis may possibly forage in agricultural fields of the project vicinity from time to time.

**TABLE 8**

**SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**

<table>
<thead>
<tr>
<th>PLANTS</th>
<th>Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Common and scientific names</td>
</tr>
<tr>
<td>California jewelflower</td>
<td><em>Caulanthus californicus</em></td>
</tr>
<tr>
<td>Kern mallow</td>
<td><em>Eremalche parryi ssp. kernensis</em></td>
</tr>
<tr>
<td>San Joaquin woollythreads</td>
<td><em>Monolopia congdonii</em></td>
</tr>
</tbody>
</table>
**TABLE 8 (CONT’D)**

**SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**

<table>
<thead>
<tr>
<th>ANIMALS</th>
<th>Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts</th>
<th>Common and scientific names</th>
<th>Status</th>
<th>General habitat description</th>
<th>* Occurrence in the Project Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Vernal pool fairy shrimp</td>
<td>FT</td>
<td>Occurs in vernal pools of California.</td>
<td>Absent. Suitable habitat in the form of vernal pools is absent from the Aquamarine site and Gen-Tie corridor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Branchinecta lynchi)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valley elderberry longhorn beetle</td>
<td>FT</td>
<td>Lives in mature elderberry shrubs of California’s Central Valley and Sierra Foothills.</td>
<td>Absent. Suitable habitat in the form of elderberry shrubs is absent from the Aquamarine site and Gen-Tie corridor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Desmocerus Californicus dimorphus)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>California tiger salamander</td>
<td>FT, CT</td>
<td>Breeds in vernal pools and stock ponds of central California; adults aestivate in grassland habitats adjacent to the breeding sites.</td>
<td>Absent. No historic or current records of this species are known within the region. Intensively cultivated lands provide unsuitable habitat for this species.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Ambystoma Californiense)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Giant garter snake</td>
<td>FT, CT</td>
<td>Habitat requirements consist of (1) adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter.</td>
<td>Unlikely. Marginal breeding and overwintering habitat is available along the irrigation canals at the Aquamarine site. However, the nearest recorded observation is more than 3 miles from the site (CNDDB 2018).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Thamnophis gigas)</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>Blunt-nosed leopard lizard</td>
<td>FE, CE, CP</td>
<td>Frequent grasslands, alkali meadows and chenopod scrub of the San Joaquin Valley from Merced south to Kern County.</td>
<td>Absent. Habitats required by this species are absent from the Aquamarine site and Gen-Tie corridor and vicinity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Gambelia Sila)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swainson's hawk (nesting)</td>
<td>CT</td>
<td>Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.</td>
<td>Present. Foraging habitat is available throughout the project area. Breeding habitat is absent from Aquamarine site and Gen-Tie corridor and within a half-mile. Swainson’s hawks were observed flying over the Aquamarine site during the April 10, 2018 site visit; they are known to occur over and adjacent to the Aquamarine site, per previous surveys conducted by LOA as well. See detailed discussion of Swainson’s hawk in the main text of this section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Buteo Swainsoni)</td>
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<td></td>
</tr>
</tbody>
</table>
TABLE 8 (CONT’D)

**SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**

<table>
<thead>
<tr>
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<tr>
<td></td>
<td>Common and scientific names</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Western yellow-billed cuckoo</td>
<td>(Coccyzus americanus occidentalis)</td>
</tr>
<tr>
<td>Western snowy plover</td>
<td>(Charadrius alexandrines nivosus)</td>
</tr>
<tr>
<td>Tricolored Blackbird</td>
<td>(Agelaius tricolor)</td>
</tr>
<tr>
<td>Nelson’s antelope squirrel</td>
<td>(Ammospermophilus nelsoni)</td>
</tr>
<tr>
<td>Giant kangaroo rat</td>
<td>(Dipodomys ingens)</td>
</tr>
<tr>
<td>Fresno kangaroo rat</td>
<td>(Dipodomys nitratoides exilis)</td>
</tr>
<tr>
<td>Tipton kangaroo rat</td>
<td>(Dipodomys nitratoides nitratoides)</td>
</tr>
</tbody>
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<tr>
<td><strong>ANIMALS</strong>&lt;br&gt;<strong>Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Joaquin kit fox&lt;br&gt; (<em>Vulpes macrotis mutica</em>)</td>
<td>FE, CT</td>
<td></td>
<td>Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat.</td>
<td>Possible. Some burrows observed in the surrounding area were of suitable size for the kit fox. However, nearly all these burrows were within the vicinity of California ground squirrels or actively used by ground squirrels. The Aquamarine site, the Gen-Tie corridor, and the surrounding area have been highly modified for agricultural use and, as a result, provide only marginal foraging and breeding habitat for the kit fox. There are no documented sightings of this species on the Aquamarine Site, the Gen-Tie corridor, or in the surrounding area, but there have been numerous documented sightings within a ten-mile radius of the Aquamarine site and Gen-Tie between 1975 and 2002 (CNDDB 2018). Therefore, kit foxes are unlikely to breed within the Aquamarine site or Gen-Tie corridor, but may occasionally forage within the Aquamarine site, and may use the Aquamarine site and Gen-Tie corridor for dispersal movements.</td>
</tr>
<tr>
<td>Western spadefoot&lt;br&gt; (<em>Spea hammondii</em>)&lt;br&gt; (<em>Scaphiopus hammondii</em>)</td>
<td>CSC</td>
<td></td>
<td>Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.</td>
<td>Absent. Vernal pools required for breeding are absent from the Aquamarine site and Gen-Tie corridor. Terrestrial habitat required for aestivation is absent from cultivated field.</td>
</tr>
<tr>
<td>Western pond turtle&lt;br&gt; (<em>Actinemys marmorata</em>)</td>
<td>CSC</td>
<td></td>
<td>Intermittent and permanent waterways including streams, marshes, rivers, ponds and lakes. Open slow-moving water of rivers and creeks of central California with rocks and logs for basking.</td>
<td>Unlikely. While marginal habitat, in the form of the canals, exists within the Aquamarine site, estivation and breeding habitat is absent from the site. The Gen-tie route supports a few irrigation basins; however, these basins lack appropriate upland habitat. Therefore, it would be unlikely to for western pond turtles to occur along the Gen-Tie route.</td>
</tr>
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</table>

**ANIMALS**

**State Species of Special Concern (adapted from CDFW 2016 and USFWS 2016)**

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<td>Absent. Vernal pools required for breeding are absent from the Aquamarine site and Gen-Tie corridor. Terrestrial habitat required for aestivation is absent from cultivated field.</td>
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**SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**

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<tr>
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<th>State Species of Special Concern (adapted from CDFW 2016 and USFWS 2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common and scientific names</td>
<td>Status</td>
</tr>
</tbody>
</table>
| Temblor legless lizard  
(Anniella alexanderae) | CSC | The Temblor legless lizard (previously called silvery legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate and is known only from two sites west of Highway 33 at the base of the Temblor Range between McKittrick and Taft in Kern County. | Absent. The project area is outside this species’ range. |
| Coast horned lizard  
(Phrynosoma blainvillii) | CSC | Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs. | Absent. Habitats required by this species are absent because they have been heavily modified for human use. The nearest documented observation of this species is more than 27 miles to the northwest of the Aquamarine site and Gen-Tie corridor (CNDDB 2018). |
| California glossy snake  
(Arizona elegans occidentallis) | CSC | Occurs in arid areas with grassland, scrub, chaparral, and rocky washes. This species is nocturnal and spends the day in burrows. | Absent. Habitats required by this species are absent from the Project Site, the Gen-Tie corridor, and vicinity. |
| San Joaquin whipsnake  
(Masticophis flagellum ruddocki) | CSC | Open, dry habitats with little or no tree cover. Found in valley grasslands and saltbush scrub in the San Joaquin Valley. | Absent. Habitats required by this species are absent from the Aquamarine site, the Gen-Tie corridor, and vicinity. |
| American white pelican (nesting)  
(Pelecanus erythrorhynchos) | CSC | Nests on islands in large lakes or on ephemeral islands in shallower wetlands. | Unlikely. Nesting habitat is absent from the Aquamarine site and the Gen-Tie corridor. This species has observed flying over the general area in previous years; however, the species is unlikely to stop and nest within the Aquamarine site or the Gen-Tie corridor. |
| White-faced ibis  
(Plegadis chihi) | CSC | Salt and freshwater marsh as well as grain and alfalfa fields. | Possible. Marginal foraging habitat required for this species is present in the form of the agricultural fields within the Aquamarine site and the Gen-Tie corridor. Breeding habitat is absent. |
### Table 8 (Cont’d)
**Special Status Species That Could Occur in the Project Vicinity**

<table>
<thead>
<tr>
<th>ANIMALS</th>
<th>Status</th>
<th>General habitat description</th>
<th>* Occurrence in the Project Site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Northern harrier</strong> <em>(Circus cyaneus)</em></td>
<td>CSC</td>
<td>Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.</td>
<td>Possible. Harriers were observed foraging over agricultural fields within the general area during previous surveys, and foraging habitat exists on the Aquamarine site and the Gen-Tie corridor. However, breeding habitat is absent.</td>
</tr>
<tr>
<td><strong>White-tailed kite</strong> <em>(Elanus leucurus)</em></td>
<td>CP</td>
<td>Open grasslands and agricultural areas throughout central California.</td>
<td>Possible. Suitable foraging habitat occurs for this species within the Aquamarine site and the Gen-Tie corridor; however, breeding habitat is absent.</td>
</tr>
<tr>
<td><strong>Mountain plover</strong> <em>(Charadrius montanus)</em></td>
<td>CSC</td>
<td>Forages in short grasslands and freshly plowed fields of the Central Valley.</td>
<td>Possible. The Aquamarine site and the Gen-Tie corridor provide potential winter foraging habitat for this species; however, the species does not breed in this region.</td>
</tr>
<tr>
<td><strong>Burrowing owl</strong> <em>(Athene cunicularia)</em></td>
<td>CSC</td>
<td>Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.</td>
<td>Present. The site visit in November of 2016 identified a burrowing owl on the Aquamarine site in a white 18” pipe that goes under a farm road in the northwest portion of the Aquamarine site. Based on the number of pellets and whitewash, the owl had been using this location for quite some time prior to the site visit. In addition, multiple burrowing owls were observed within the Aquamarine site along dry agricultural canals and dry banks of larger wet canals, including the canal along the south side of Laurel Avenue. As a side note, maintenance activities along these canals can temporarily displace burrowing owls until ground squirrels recolonize the canal banks. During the November 2016 site visit, the banks of the canal south of Laurel Avenue had recently been managed; however, it had been recolonized by the time of the 2018 site visits. As burrowing owls are known to be in the area, it is possible they may occur along portions of the Gen-Tie route and the California Aqueduct.</td>
</tr>
</tbody>
</table>
TABLE 8 (CONT’D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Common and scientific names</td>
</tr>
<tr>
<td></td>
<td>Long-eared owl (nesting) (Asio otus)</td>
</tr>
<tr>
<td></td>
<td>Black swift (Cypseloides niger)</td>
</tr>
<tr>
<td></td>
<td>Vaux’s swift (Chaetura vauxi)</td>
</tr>
<tr>
<td></td>
<td>Loggerhead Shrike (Lanius ludovicianus)</td>
</tr>
<tr>
<td></td>
<td>Tulare grasshopper mouse (Onychomys torridus tularensis)</td>
</tr>
<tr>
<td></td>
<td>Short-nosed kangaroo rat (Dipodomys nitratoids brevinasus)</td>
</tr>
</tbody>
</table>
### TABLE 8 (CONT’D)

**SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**

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<tbody>
<tr>
<td><strong>Common and scientific names</strong></td>
<td><strong>Status</strong></td>
</tr>
<tr>
<td>Townsend’s Big-eared bat (Corynorhinus townsendii)</td>
<td>CSC</td>
</tr>
<tr>
<td>Pallid bat (Antrozous pallidus)</td>
<td>CSC</td>
</tr>
<tr>
<td>California mastiff bat (Eumops perotis ssp. californicus)</td>
<td>CSC</td>
</tr>
<tr>
<td>American badger (Taxidea taxus)</td>
<td>CSC</td>
</tr>
<tr>
<td>Ringtail (Bassariscus astutus)</td>
<td>CP</td>
</tr>
</tbody>
</table>

**Explanation of Occurrence Designations and Status Codes**

- **Present**: Species observed within the project site at time of field surveys or during recent past.
- **Likely**: Species not observed within the project site, but it may reasonably be expected to occur there on a regular basis.
- **Possible**: Species not observed within the project site, but it could occur there from time to time.
- **Unlikely**: Species not observed within the project site, and would not be expected to occur there except, perhaps, as a transient.
- **Absent**: Species not observed within the project site, and precluded from occurring there because habitat requirements not met.

**TABLE 8 STATUS CODES**

<table>
<thead>
<tr>
<th>FE</th>
<th>FT</th>
<th>FPE</th>
<th>FC</th>
<th>CE</th>
<th>CT</th>
<th>CR</th>
<th>CP</th>
<th>CSC</th>
<th>CNPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federally Endangered</td>
<td>Federally Threatened</td>
<td>Federally Endangered (Proposed)</td>
<td>Federal Candidate</td>
<td>California Endangered</td>
<td>California Threatened</td>
<td>California Rare</td>
<td>California Fully Protected</td>
<td>California Species of Special Concern</td>
<td>California Native Plant Society Listing</td>
</tr>
</tbody>
</table>

**CNPS**<br>Plants Presumed Extinct in California<br>**1A**<br>Plants Rare, Threatened, or Endangered in California and elsewhere<br>**1B**
A detailed discussion of the species with potential to use the project site as breeding habitat (burrowing owl), and as a transit corridor (San Joaquin kit fox) follows. This discussion also includes Swainson’s hawk, a potential forager on the site, due to its status as a listed Threatened Species in California.

**Burrowing Owl**

The burrowing owl is designated as a California Species of Special Concern, and has no federal listing status. This designation was based on the species’ declining population within the state over the past 40 years. The population decline is mainly due to habitat destruction resulting from development and agricultural practices.

Burrowing owls are unique in that they are the only owl that regularly lives and breeds in underground nests. In California, these birds typically occur in the Central and Imperial Valleys, primarily utilizing ground squirrel burrows (or the burrows of other animals, e.g., badgers, prairie dogs and kangaroo rats) found in grasslands, open shrub lands, deserts, and, to a lesser extent, grazed and agricultural lands.

In November 2016, and in the springs of 2017 and 2018, LOA ecologists evaluated the Aquamarine site for the potential to support burrowing owls. In 2016, one burrowing owl was observed in the northwest portion of the site and flushed from a white 18-inch pipe that goes under a farm road. Based on the number of pellets and whitewash, the owl had been using this location for quite some time prior to the 2016 site visit. On April 10, 2018, three pair of burrowing owls and one single burrowing owl were observed along the canal south of and paralleling Laurel Avenue. No burrowing owls were observed along the Gen-Tie route; however, they could occur along the route in the future.

Currently, suitable habitat onsite consists mainly of man-made ‘burrows’, such as pipes, as well as ground squirrel burrows within and along the on-site canals. The Aquamarine site provides suitable nesting/denning habitat for burrowing owls in the form of California ground squirrel burrows along the edges of the agricultural fields and in and along the canals, and in the form of pipes in or on the ground, as well as foraging habitat within the agricultural fields. Canal maintenance activities have the potential to impact locations of burrowing owls, as many large canals support burrowing owls, such as the canal south of Laurel Avenue. However, LOA biologists observed that canals banks that had previously been subject to maintenance activities had subsequently been recolonized by burrowing owls. During the period between the maintenance activities and recolonization, the burrowing owls would take up temporary residence elsewhere.

The Gen-Tie route also supports some ground squirrel burrows, which would provide suitable burrow habitat for burrowing owls. Therefore, burrowing owls can be expected to occur along the Gen-Tie route in the future.
San Joaquin Kit Fox

The San Joaquin kit fox is a federally-listed Endangered species, and a California-listed Threatened species. The smallest North American member of the dog family (Canidae), the kit fox historically occupied the dry plains of the San Joaquin Valley, from San Joaquin County to southern Kern County. Local surveys, research projects, and incidental sightings indicate that kit fox currently occupy available habitat on the San Joaquin Valley floor and in the surrounding foothills.

Kit fox prefer open, arid habitats with loose soils. In the southern and central portion of the Central Valley, kit fox occur primarily in annual grassland and scrub habitats, but may also be found in grazed pasture, urban settings, and on the margins of tilled or fallow fields. They require underground dens to raise pups, regulate body temperature, and avoid predators and other adverse environmental conditions. In the central portion of their range, they usually occupy burrows excavated by small mammals such as California ground squirrels. Kit fox are primarily carnivorous, feeding on squirrels, black-tailed hares, desert cottontails, rodents, insects, and ground-nesting birds.

Conditions in the project area consist predominantly of cultivated and fallow agricultural fields, which are generally unsuitable for foraging kit fox. A few burrows were observed that were of suitable dimensions for kit fox, but most of these burrows were or appeared to be occupied by California ground squirrels, a burrowing owl, or were pipes either installed in the ground or laying on top of the ground. No kit fox, or their sign, were observed during any of the site visits by LOA ecologists between 2011 and 2018.

According to records of kit fox sightings in the region, there have been a total of 40 historical (1975-2002) sightings within the 10 miles of the Aquamarine site. All of these sightings occur at least 7.5 miles from the project site. (For a map showing the locations of these kit fox sightings, see Figure 4 in LOA’s biological report, contained in Appendix C of this document.) Considering the highly disturbed condition of the project site, its isolation from extant kit fox populations, and its marginal to poor suitability as foraging or denning habitat, it is unlikely any kit fox have taken up residence within the Aquamarine site or Gen-Tie corridor. However, the California Aqueduct, which the Gen-Tie route crosses, may be used as local movement corridor for this species. Based on the distribution of kit fox occurrences in the vicinity, the project area may only occasionally be used for regional movements of individual kit fox. Multiple large irrigation canals and drainage ditches running through the project area may act as movement corridors; however, should a kit fox utilize these corridors, the fox would have to travel through miles of marginal to poor habitat before reaching the Aquamarine site, which itself holds little habitat value.

Swainson’s Hawk

The Swainson’s hawk is designated as a California Threatened species, and has no federal listing status. The loss of agricultural lands (i.e., foraging habitat) to urban development and additional threats such as riverbank protection projects have contributed to its decline.

Swainson’s hawks are large, broad-winged, broad-tailed hawks and have a high degree of mate and territorial fidelity. In the Central Valley they arrive at their nesting sites in March or April. The nest is likely to be a large stick nest (3 to 4 feet in diameter) constructed in a tree. In the Central Valley, Swainson’s hawks typically nest in large trees within or peripheral to riparian systems adjacent to suitable foraging habitats. Other suitable nest sites include lone trees, groves of trees such as oaks, other trees in agricultural fields, and mature roadside trees. The young hatch sometime between March
and July and do not leave the nest until some 4 to 6 weeks later. Swainson’s hawks forage in large, open fields with abundant prey, including grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands.

There are 36 Swainson’s hawk nests within a 10-mile radius of the Aquamarine site and Gen-Tie corridor, with the nearest nest sites located 3.0 miles to the east of the Aquamarine site and 4.0 miles northwest of the Gen-Tie corridor. (For a map showing Swainson’s hawk nests, see Figure 1 in Appendix D of LOA’s biological report, which is contained in Appendix C of this document.) Between 2011 and 2018, LOA biologists conducted multiple surveys for Swainson’s hawk nests in the project area. The surveys found no nest sites, and only one tree with poor nesting potential was found within one-half mile of the Aquamarine site. On several occasions during the surveys, a number of Swainson’s hawks were observed foraging in agricultural fields in the project vicinity.

Based on their field surveys, LOA biologists concluded that Swainson’s hawks may utilize portions of the Aquamarine site for foraging, but nesting is unlikely due to the absence of suitable nest trees. Along the Gen-Tie route, Swainson’s hawks may nest where suitable trees exist.

**Other Migratory Birds**

Other migratory birds include most bird species with the exception of house sparrow and European starling, among a few other non-native birds. Migratory birds and their nests are protected under the Federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code (Sections 3503 and 3513). Between approximately February 1 and August 31, migratory birds nest throughout California and the Central Valley on the ground and in grasses, shrubs, and trees.

Ground nesting birds such as burrowing owl and killdeer, among other disturbance-tolerating birds, may utilize the ground and agricultural vegetation of the Aquamarine site and Gen-Tie corridor for nesting.

**Jurisdictional Waters**

Jurisdictional waters include rivers, creeks, and drainages that are under the regulatory authority of the U.S. Army Corps of Engineers (USACE), the CDFW, and/or the California Regional Water Quality Control Board (RWQCB). The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. The nearest known water of the U.S. is the Kings River, which is approximately 1.8 miles east of the project site at its nearest point.

Two large irrigation canals run through the Aquamarine site along with several smaller canals and drainage ditches; however, these canals and ditches do not receive water from the Kings River, which is at a lower elevation than the Aquamarine site. Artificial waterways such as canals are typically not claimed by the agencies unless they receive water from a Known Water of the U.S., and then return water to a Known Water of the U.S. Thus, even if the canals and ditches on the Aquamarine site received water from a Known Water of the U.S., the Kings River, those waters do not return to the Kings River. As such, those canals and ditches do not fall under the jurisdiction of the USACE. Therefore, Waters of the U.S. are absent from the site.

Although the USACE has disclaimed jurisdiction over isolated wetlands, they are still regulated by the RWQCB under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Thus, although the canals and ditches may not fall under federal jurisdiction, the RWQCB may assert
jurisdiction over those portions of the canal and ditches of the Aquamarine site that function as wetlands. The Gen-Tie corridor will cross over the California Aqueduct and possibly other canals, ditches or drainage features. While it is unlikely that any aquatic features within the Gen-Tie corridor are waters of the United States, it is possible that any such features could be considered waters of the state of California and thus within the jurisdiction of the RWQCB.

The CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. The CDFW typically only asserts jurisdiction over ponds, lakes, and natural drainages or manmade features that replace natural drainages and, therefore, is unlikely to regulate alterations to the manmade canals and ditches within the Aquamarine site or crossed by the Gen-Tie Line.

For a detailed discussion of jurisdictional waters, see the LOA biological report in Appendix C of this document.

**Wildlife Movement Corridors**

Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. The nearest significant riparian corridor that likely facilitates regional movement of wildlife is the Kings River to the northeast of the site. This riparian area is located approximately 1.8 miles to the east of the Aquamarine site at its nearest point. To a lesser extent, the California Aqueduct, located 2.5 miles west of the Kings/Fresno County line, is also expected to act as a movement corridor.

The canals and ditches within and adjacent to the Aquamarine site can function as movement corridors for the regular home range or dispersal movements of native wildlife, including special status species.

**Designated Critical Habitat**

The USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. There are no designated critical habitat areas in the project vicinity.

**Natural Communities of Special Concern**

Natural communities of special concern are those that are of limited distribution, have significant biological diversity, or provide important habitat for special status species. The California Department of Fish and Wildlife is responsible for the classification and mapping of all natural communities in California. Natural communities are assigned state and global ranks according to their degree of imperilment. Examples of natural communities of special concern in the vicinity of the project site include vernal pools, such as those found east of the Kings River, and various types of riparian forest, such as those found along the Kings River. The vegetation associations present on the project site are dominated by non-native species, and are not considered natural communities of special concern.

**Habitat Conservation Plans (HCPs)**

The only HCP that may apply to the Aquamarine and Gen-Tie projects is PG&E’s “San Joaquin Valley Operations and Maintenance Habitat Conservation Plan.” This HCP covers 23 wildlife species and 42
plant species for 33 routine operations and maintenance activities for PG&E’s electric and gas transmission and distribution systems within nine counties in the San Joaquin Valley, including Kings County. The HCP prescribes best management practices to ensure that PG&E’s operational and maintenance activities comply with the federal and state Endangered Species Acts. The proposed project is within the boundaries of the HCP. Although the HCP mainly covers operational and maintenance activities, it also covers small construction projects, such as minor extensions of electrical lines (CDFG 2008).

There are no other HCPs or Natural Community Conservation Plans that cover the project area. However, the USFWS has adopted the *Recovery Plan for Upland Species of the San Joaquin Valley* which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The plan includes information on recovery criteria, habitat protection, umbrella and keystone species, monitoring and research program, adaptive management, and economic and social considerations. The only species addressed in the recovery plan that potentially occurs in the project vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded in the immediate vicinity of the Aquamarine site or Gen-Tie corridor, as discussed above. The Recovery Plan does not identify the project area or any other lands in the vicinity as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted (USFWS 1998).

**Environmental Evaluation**

*a) Would the project 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?*

**Aquamarine Solar Facility and Gen-Tie Line**

**Less-than-Significant Impact with Mitigation Incorporated.** The Aquamarine Solar Project and Gen-Tie Line would have a potentially significant impact upon two species of wildlife, including: San Joaquin kit fox, a federally-listed Endangered species and a California-listed Threatened species, and; burrowing owl, a California Species of Special Concern. The project could also have a potentially significant impact upon ground nesting bird species, which are protected under the Migratory Bird Treaty Act. There is also a concern with cumulative impacts to foraging habitat of the Swainson’s hawk, a California-listed Threatened species. The potential project impact to each of these and other special status species is discussed below, along with mitigation measures that would reduce the impacts to less-than-significant levels.

**San Joaquin kit fox**

Kit fox infrequently use the heavily farmed areas in the project vicinity as is evident from the lack of sightings within at least 7.0 miles of the Aquamarine site over the past 35 years. (Along the Gen-Tie route, the nearest recorded sightings are along the California Aqueduct, and these are from 1981.) While the lands in the project area do not provide suitable forage and denning habitat for kit foxes, there is a potential that kit fox may occasionally traverse the site vicinity while dispersing to another location. The Aquamarine project and Gen-Tie Line are expected to result in a less-than-significant
impact on kit fox foraging and denning habitat, and they are not expected to impede regional movement patterns as their occurrence on or near the Aquamarine site and Gen-Tie corridor is expected to be uncommon.

Although the Aquamarine site and Gen-Tie corridor do not provide suitable kit fox habitat, any kit foxes traversing the area during the construction phases could be harmed, injured or killed. Therefore, there is a potentially significant impact to individual kit foxes, should they traverse the Aquamarine site and Gen-Tie corridor during construction. The potential impacts to San Joaquin kit fox would be reduced to a less-than-significant levels through implementation of the following mitigation measure.

**Mitigation Measure BIO-1: San Joaquin Kit Fox Protection.** In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented in conjunction with the construction of the Aquamarine Solar Project and the Gen-Tie Line:

a. **Pre-construction Surveys.** Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the “U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance” (USFWS 2011). The primary objective is to identify San Joaquin kit fox habitat features (e.g., potential dens and refugia) on the project site and evaluate their use by San Joaquin kit fox. If an active San Joaquin kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.

b. **Kit Fox Avoidance Measures.** Should San Joaquin kit fox be found using the Aquamarine Solar Project site or Gen-Tie corridor during preconstruction surveys, the construction activity shall avoid the habitat occupied by kit fox and the Sacramento Field Office of the USFWS and Fresno Field Office of CDFW shall be notified.

c. **Minimization of Potential Disturbance to Kit Fox.** Whether or not kit foxes are found to be present, all permanent and temporary construction activities and other types of project-related activities shall be carried out in a manner that minimizes disturbance to San Joaquin kit fox. Minimization measures include, but are not limited to: restriction of project-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of San Joaquin kit fox; restriction of rodenticide and herbicide use; and proper disposal of food items and trash. The full list of protection measures required by the USFWS during construction and operation contained in USFWS Standardized Recommendations (USFWS 2011), and is presented in Table BIO-1. The protection measures set forth in Table BIO-1 are fully incorporated into this mitigation measure by reference.

d. **Employee Education Program.** Prior to the start of construction, the applicant shall retain a qualified biologist to conduct an on-site training session to educate all construction staff on the San Joaquin kit fox. This training shall include a description of the San Joaquin kit fox, a brief summary of their biology; and a list of minimization measures and instructions on what to do if a San Joaquin kit fox is observed within the Aquamarine Solar Project site or Gen-Tie corridor.
Table BIO-1

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS
FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE
CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

1. 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.

2. 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 Wildlife (CDFW) shall be contacted as noted under measure 13 referenced below.

3. 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 USFWS 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.

4. 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.

5. No firearms shall be allowed on the project site. (This prohibition does not apply to law enforcement personnel such as Sheriff’s Deputies or the Fire Marshal.)

6. 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.

7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox. 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 USFWS.

8. 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 USFWS.

(Continued on next page.)
Table BIO-1 (Cont’d)

U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance

Construction and On-going Operational Requirements

9. An employee education program should be conducted for any project that has 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 should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated 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 revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the USFWS, California Department of Fish and Wildlife (CDFW), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the USFWS should be contacted for guidance.

12. 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. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The USFWS should be contacted at the numbers below.

13. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. 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 USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

14. 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 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
e. **Mortality Reporting.** The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW shall be notified in writing within three working days in case of the accidental death of or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

f. **Wildlife-friendly Fencing.** The perimeter fencing surrounding each phase of the Aquamarine Solar Project shall consist of wildlife-friendly or permeable fencing that allows San Joaquin kit fox and other wildlife to move through the site unimpeded. The bottom of the perimeter fencing shall be 5 to 7 inches above the ground, as measured from the top of the ground to the lowest point of the fence. The bottom of the fence edges shall be knuckled (wrapped back to form a smooth edge) to allow wildlife to pass through safely. The fencing shall not be electrified.

**Raptors and Migratory Birds**

In addition to the Swainson’s hawk and burrowing owl (discussed below), several other raptor species such as the northern harrier, prairie falcon, peregrine falcon, and red-tailed hawk are known to forage in the project area. Additionally, the Aquamarine site and Gen-Tie corridor area provide nesting habitat for a number of migratory bird species, including, but not limited to, the snowy plover, black-necked stilt, great-horned owl, common raven, loggerhead shrike, house finch, Brewer’s blackbird, and tricolored blackbird. Nearly all native bird species are protected by the federal Migratory Bird Treaty Act. The canal and ditch habitat, as well power poles and barren ground on the Aquamarine site and Gen-Tie corridor, provide potential nesting habitat for these species. If birds were to nest in these areas prior to construction, project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws (see Section 3.2.2 and 3.2.3 of the LOA report in Appendix C) and would be represent a significant impact.

The potential impacts to ground nesting raptors and migratory birds would be reduced to a less-than-significant levels through implementation of the following mitigation measure.

**Mitigation Measure BIO-2: Protection for Nesting Raptors and Migratory Birds.** In order to minimize construction disturbance to active raptor and other bird nests, the following measures shall be implemented in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

a. **Pre-construction Surveys.** If tree removal, site preparation, grading, or construction is planned to occur within the breeding season (February 1 - August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests within 10 days of the onset of these activities. If construction activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.

b. **Monitoring Active Nests.** Should any active nests be discovered in or near planned construction zones, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, continuously monitor all nests to detect any behavioral changes as a result of the project. If behavioral changes are observed, stop the work causing that change
and consult with the California Department of Fish and Wildlife for additional avoidance and minimization measures.

c. Exclusion Zones for Active Nests. Alternatively, should any active nests be discovered in or near the planned construction zones, the biologist shall establish a 250-foot construction-free buffer around the nest for non-listed birds, 500-foot buffer for unlisted raptors, and a half-mile for listed bird species. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged. Variance from these setback distances may be allowed if a qualified biologist provides compelling biological or ecological reason to do so and if CDFW is notified in advance of implementation of a no disturbance buffer variance.

d. Tailgate Training for Workers. All construction and operations workers on the Aquamarine Solar Project and Gen-Tie Line shall be trained by a qualified biologist. The tailgate training shall include a description of the Migratory Bird Treaty Act, instructions on what to do if an active nest is located, and the importance of capping pipes and pipe-like structures standing upright in order to avoid birds falling into the pipes and getting stuck.

e. Capping of Hollow Poles and Posts. Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Aquamarine project site, the poles shall be capped immediately after installation to prevent entrapment of birds.

**Burrowing Owl**

The Aquamarine site provides suitable nesting/denning habitat for burrowing owls in the form of California ground squirrel burrows along the edges of the agricultural fields, and in and along the canals and ditches, and in the form of pipes in or on the ground. The Aquamarine site also provides foraging habitat within the agricultural fields. During LOA’s 2016 and 2018 site visits, burrowing owls were identified on the project site along the banks of canals. Since the Aquamarine project would not involve disturbance to the canals on or adjacent to the site, the known locations of burrowing owl burrows along the on-site canals would be avoided. In addition, adequate suitable foraging habitat exists to the east of the Aquamarine project site to support these owls.

For any burrowing owls that occur elsewhere within the Aquamarine site, both breeding and foraging habitat could be lost due to the Aquamarine project. This would constitute a significant impact to burrowing owl foraging and breeding habitat.

The Gen-Tie Line would result in very little loss of foraging habitat and likely no loss of breeding habitat for burrowing owls.

These small raptors are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Ground disturbing activities associated with construction of the Aquamarine Solar Project and Gen-Tie Line may also result in the mortality of burrowing owls, as they are known to retreat into their burrows ahead of approaching heavy equipment. Mortality of individual birds would be a violation of state and federal law, and would constitute a significant environmental impact.
The potential impacts to burrowing owls would be reduced to a *less-than-significant* levels through implementation of the following mitigation measures.

**Mitigation Measure BIO-3: Burrowing Owl Protection.** In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented, as necessary, in conjunction with the construction of the Aquamarine Solar Project and the Gen-Tie Line:

a. **Pre-Construction Surveys.** Pre-construction surveys shall be conducted by a qualified biologist no more than 10 days prior to the onset of ground-disturbing activity. These surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones.

b. **Avoidance of Active Nests During Breeding Season.** If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet shall be established around all active owl nests. The buffer areas shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below.

c. **Avoidance of Occupied Burrows During Non-Breeding Season, and Passive Relocation of Resident Owls.** During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 250 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.

d. **Tailgate Training for Workers.** All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.

e. **Mitigation for Loss of Burrowing Owl Habitat.** If it is determined that burrowing owl nest(s) are located on or near the Aquamarine project site or Gen-Tie corridor, the biologist shall coordinate with the project applicant and resource agency to determine whether relocation of these nest(s) is unavoidable. If so, measure #1 below (off-site conservation easement) would apply. If the on-site or nearby nest(s) are to remain in place, the biologist shall determine whether sufficient foraging habitat is available on adjacent or nearby lands, and if so, no further mitigation is required. (Approximately 200 acres of year-round foraging habitat within about 2 miles of the burrowing owl burrow is required to support a burrowing owl pair.) If it is determined that there is insufficient nearby foraging habitat, the biologist shall determine the amount of on-site foraging habitat that is required to sustain the burrowing owl nest. In this case, the potential impact to foraging habitat shall be either avoided through implementation of measure #2 below (on-site buffer zone), or compensated through implementation of measure #1 (conservation easement) or measure #3 (long-term agreement on adjacent lands) below:
1) Establishment of a conservation easement with a 1:1 ratio for foraging/breeding habitat preservation. These easements would include habitats determined to be suitable for foraging and/or breeding year-round and seasonal use.

2) Establishment of permanent buffer zones of adequate size around current burrowing owl locations. These buffer zones would require adequate management for the life of the project and buffer zones to ensure the buffer area remains suitable for burrowing owls. Annual monitoring of the suitability of management activities may be required by CDFW.

3) Short- or long-term compensation for foraging habitat by providing farmers in adjacent lands incentives to plant particular crops known to be suitable forage habitat for burrowing owls (i.e., winter wheat, alfalfa, etc.) and to enact a farmer burrowing owl safety program where farmers are trained how to reduce burrowing owl mortalities on their lands and farm roads. A 1:1 ratio would be required to be in the program as long as the project is active.

**Swainson’s Hawk**

**Impacts to Swainson’s Nesting Habitat**

As discussed under ‘Biological Setting,’ nesting habitat for Swainson’s hawks is absent from the Aquamarine project site and its immediate vicinity. The nearest previously observed nest is located 2 miles east of the Aquamarine site. No potential nest sites are located within the project site or its immediate vicinity due to the absence of suitable nesting trees. The nearest potential nest sites occur in large Gooding’s willows in riparian habitat around the tailwater pond located 1.5 miles southwest of the Aquamarine site. Therefore, the impact to nesting habitat for Swainson’s hawk due to construction of the Aquamarine Solar Project would be less than significant.

In the vicinity of the Gen-Tie corridor, the nearest previously observed Swainson’s hawk is located 3 miles north near the California Aqueduct in Fresno County. Potential nest sites occur in the larger trees associated with agricultural and residential structures along the Gen-Tie route. Construction activities occurring near an active Swainson’s hawk nest could adversely affect nesting success or result in mortality of individual birds constitute a violation of state and federal laws and would be considered a significant impact under CEQA.

**Mitigation Measure BIO-4: Swainson’s Hawk Protection.** In order to minimize the potential for impacts to Swainson’s hawks, the following measures shall be implemented, as necessary, in conjunction with the construction of the Gen-Tie Line:

a. **Pre-Construction Surveys.** During the nesting season prior to the construction of the Gen-Tie Line within a half-mile of a potential nest tree, preconstruction surveys shall be conducted within the construction zones and adjacent lands to identify any nesting pairs of Swainson’s hawks. These surveys will conform to the guidelines of CDFW as presented in **RECOMMENDED TIMING AND METHODOLOGY FOR SWAINSON’S HAWK NESTING SURVEYS IN CALIFORNIA’S CENTRAL VALLEY,** Swainson’s Hawk Technical Advisory Committee, May 31, 2000. No preconstruction surveys are required for construction activity located farther than a half-mile from a potential nest tree.

b. **Establish Buffers.** Should any active nests be discovered in or near proposed construction zones, the qualified biologist shall establish a suitable construction-free buffer around the
nest. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged.

c. **Tailgate Training.** All workers on the construction of the Gen-Tie Line shall attend tailgate training that includes a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a Swainson’s hawk is observed on or near the construction zone.

### Project Impacts to Swainson’s Hawk Foraging Habitat

It is possible that Swainson’s hawks may occasional forage on the Aquamarine site and Gen-Tie corridor, but given the regional abundance of foraging habitat, the loss of foraging habitat resulting from the Aquamarine Solar Project and Gen-Tie Line would represent a less-than-significant impact to foraging habitat for Swainson’s hawk.

### Cumulative Impacts to Swainson’s Hawk Foraging Habitat

As mentioned, Swainson’s hawks are known to forage in the vicinity of the Aquamarine project site and Gen-Tie corridors. As part of its biological assessment for the Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, conducted in 2017, LOA completed a comprehensive analysis of potential impacts to Swainson’s hawk foraging habitat associated with development of the WSP Master Plan area and all other approved, pending, and completed projects within a 10-mile radius of the WSP plan area (WWD 2017). The analysis identified all known Swainson’s hawk nests that were previously observed during surveys by LOA or others. In 2018, LOA biologists conducted follow-up surveys to identify currently active nests. LOA biologists also reviewed and updated their detailed 2017 analysis of foraging habitat within a 10-mile radius of the WSP plan area and concluded that abundant habitat that would remain after full development of the WSP plan area, and all other cumulative projects (including projects proposed since 2017) within this 10-mile radius, would be more than sufficient to support all of the known Swainson’s hawk nests within this radius, with surplus capacity to support additional nesting pairs. The full analysis is contained in Appendix D of LOA’s biological report, which is contained in Appendix C of this document, and is summarized below.

LOA’s 2018 analysis update began with an inventory of known Swainson’s hawk nests within a 10-mile radius of the project site. The study found that there are 36 documented nests within this radius, the nearest of which is over 7.5 miles from the Aquamarine project site.

LOA’s analysis of potential cumulative impacts to Swainson’s hawk foraging habitat employed a study methodology established by Estep Environmental Consulting (Estep), and which has been applied in similar studies on previous solar projects in Kings County. The first step in this analysis was to make a determination as to the amount of surplus foraging habitat available that is not considered to be required by existing Swainson’s hawks that are currently nesting in the area. Based on LOA’s application of Estep’s methodology, it was calculated that there is currently a surplus of 135,492 acres of suitable foraging habitat within the study area. (See LOA’s Biological Assessment in Appendix C of this document for a full description of the habitat calculations.)

In order to determine the potential cumulative impacts to foraging habitat, all of the pending, approved, and completed solar projects within the study area were identified and mapped. It was determined that the 23 cumulative projects (including the Aquamarine project) occupy a total of
34,583 acres within the study area (this includes the entire WSP plan area of 20,938 acres). For purposes of analysis, this entire acreage was conservatively assumed to comprise suitable foraging habitat, whereas the actual total would be less after subtracting acreage in tree crops and vineyards which provide little or no foraging value for Swainson’s hawks.

In order to determine if this cumulative loss of foraging habitat represented a significant cumulative impact, Estep established that a reduction of surplus habitat to less than 70 percent relative to pre-project conditions would represent a cumulatively significant impact (Estep 2012). As presented in LOA’s Biological Assessment (see Appendix C of this document), it was calculated that the cumulative projects would reduce the total surplus foraging habitat in the study area to 100,909 acres (i.e., 135,492 acre pre-project surplus minus 34,583 acres cumulative loss). This remaining acreage of surplus foraging area represents 74.5 percent of the pre-project total. Since the remaining surplus foraging acreage is greater than 70 percent of the pre-project surplus foraging acreage in the study area, the cumulative impact to the Swainson’s hawk foraging acreage in the study area was determined to be less than significant.

### American Badgers

Given the observations of American badgers, a California Species of Special Concern, on nearby lands with similar habitats to those of the Aquamarine project site and the Gen-Tie corridor, the potential exists that the American badger may reside within the Aquamarine site and Gen-Tie corridor. No badgers or badger burrows were observed in the area during any of the surveys of the Aquamarine site and Gen-Tie corridor conducted from 2011 through 2018. Potential badger habitat was found on the Aquamarine site and Gen-Tie corridor in the form of fallow fields. While the occurrence of badgers is expected to be unlikely, it cannot be ruled out. As such, there is a potential for significant impact to American badgers.

**Mitigation Measure BIO-5: American Badger Mitigation.** The following measures shall be implemented to minimize impacts to the American badger, as necessary, in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

a. **Preconstruction Surveys for American Badger.** During the course of pre-construction surveys prescribed for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of construction. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers would be warranted.

b. **Avoidance of Active Badger Dens and Monitoring.** If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction, a construction-free buffer of up to 300 feet shall be established around the den. Once the biologist has determined that the badger(s) have vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present on-site during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor shall be required on-site until it is determined that young are of an independent age and construction activities would not harm individual badgers.
c. **Tailgate Training for Workers.** All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if an American Badger is observed.

**Loss of Habitat for Special Status Plants**

Three special status vascular plant species are known to occur in the vicinity of the project site: California jewel-flower, San Joaquin woollythreads, and round leaved filaree. Because of the many decades of agricultural disturbance, habitat for these plant species is absent from the Aquamarine project site and Gen-Tie corridor. Therefore, the impacts to regional populations of these species would be less than significant.

**Loss of Habitat for Special Status Animals Absent or Unlikely to Occur in the Project Area**

Of the 36 special status animal species potentially occurring in the region, 21 species would be absent or unlikely to occur within the Aquamarine site or Gen-Tie corridor due to unsuitable habitat conditions. These include the vernal pool fairy shrimp, valley elderberry longhorn beetle, California tiger salamander, western spadefoot, western pond turtle, Temblor legless lizard, coast horned lizard, blunt-nosed leopard lizard, giant garter snake, California glossy snake, San Joaquin whipsnake, American white pelican (nesting), black swift, Vaux’s swift, western yellow-billed cuckoo, Nelson’s antelope squirrel, giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat, Tulare grasshopper mouse, and ringtail. Construction of the Aquamarine Solar Project and Gen-Tie Line would have no impact on these species because there is little or no likelihood that they are present.

**Loss of Habitat for Special Status Animals that May Occur as Occasional or Regular Foragers or Disperse through the Project Area but Breed Elsewhere**

There are 10 species that may occasionally utilize the Aquamarine site and Gen-Tie corridor for foraging or dispersal movements but would breed elsewhere. These include: western snowy plover, mountain plover, white-faced ibis, northern harrier, white-tailed kite, loggerhead shrike, tricolored blackbird, Townsend’s big-eared bat, pallid bat, and California mastiff bat. LOA’s biologists determined that the Aquamarine project site and Gen-Tie corridor do not provide regionally important foraging habitat for these species (see LOA Biological Assessment in Appendix C of this document). Considerable habitat suitable for migratory movements and winter foraging would continue to be available for these species on other lands within the region following development of the project. Therefore, project development would result in a less-than-significant impact on these species due to loss of foraging habitat.

b) **Would the project 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 U.S. Fish and Wildlife Service?**

**Aquamarine Solar Facility and Gen-Tie Line**

**No Impact.** As discussed in ‘Biological Setting’ above, LOA determined that the canals and ditches on and adjacent to the Aquamarine site and the Gen-Tie corridor do not meet the requirements of the USACE as a jurisdictional wetland. The construction of the Aquamarine Solar Project is not
planned or expected to encroach upon or physically alter any on-site or off-site canals. The agricultural lands that occupy the Aquamarine site and Gen-Tie corridor are not considered sensitive habitats and do not provide significant habitat value to regional wildlife populations. Because riparian and other sensitive habitats are absent, construction of the Aquamarine Solar Project and Gen-Tie Line would have no impact on riparian habitat or other sensitive natural community.

c) **Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Aquamarine Solar Facility and Gen-Tie Line**

**No Impact.** As discussed in ‘Biological Setting’ above, there are no “Waters of the U.S.” within or adjacent to the Aquamarine project site or Gen-Tie corridor. Because the project would avoid potential Waters of the U.S. and federally protected wetlands, potential project impacts to federally protected wetlands would be less-than-significant.

At the state level, wetlands are regulated by the RWQCB under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Thus, although the canals and ditches may not fall under federal jurisdiction, the RWQCB may assert jurisdiction over those portions of the canal and ditches of the Aquamarine site that function as wetlands. The Gen-Tie corridor will cross over the California Aqueduct and possibly other canals, ditches or drainage features. The wetland habitat associated with the irrigation canals and ditches on the Aquamarine site would be avoided by the Aquamarine project. The Gen-Tie line would not adversely affect any wetland habitat in the canals and ditches that it crosses or runs adjacent to. Therefore, the potential project impacts of the Aquamarine Solar Project and Gen-Tie Line to wetlands would be less-than-significant.

d) **Would the project 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?**

**Aquamarine Solar Facility and Gen-Tie Line**

**Less-than-Significant Impact.** It is likely that some species use the canals and ditches on the Aquamarine site as movement corridors, including San Joaquin kit fox. The Aquamarine site likely has some small value for the regional movements of some wildlife species; however, the canal and ditch system has greater value when placed in a regional context. As the development of the Aquamarine site as a solar generating facility would not affect existing canals, which would continue to be operated and managed as they are under current conditions, it is expected that wildlife that currently uses the canals for movement will continue to use the canal system to move through the area after the Aquamarine project is completed.

To allow for ground movement of wildlife through the project site, all fencing enclosing the solar facility is planned to consist of “wildlife friendly” fencing with a continuous 5- to 7-inch separation from the top of the ground to the lowest point of the bottom of the fence along the entire fence. Such fencing will not be electrified.
In the vicinity of the Gen-Tie corridor, the California Aqueduct is likely used as a movement corridor for local wildlife. However, given the very light footprint of the Gen-Tie line, it is unlikely that it would affect local wildlife movement along the Aqueduct or any other linear feature.

In summary, wildlife currently using the Aquamarine project site and Gen-Tie corridor for movement are expected to continue to do so after project completion, given that wildlife friendly fencing will be installed around the Aquamarine project and the canal and ditch system will be retained within the solar facility, thus allowing for wildlife movement through the site unimpeded. Therefore, the Aquamarine Solar Project and Gen-Tie line would result in a *less-than-significant impact* on regional or local wildlife movements.

With respect to native wildlife nursery sites, the aquatic habitat associated with the irrigation canal and ditches on the Aquamarine site could provide nursery sites for native wildlife. These features would be avoided by the Aquamarine project. The Gen-Tie line would not adversely affect any aquatic habitat in the canals and ditches that it crosses or runs adjacent to. Therefore, the potential project impacts of the Aquamarine Solar Project and Gen-Tie Line to wildlife nursery sites would be *less-than-significant*.

**e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Aquamarine Solar Facility and Gen-Tie Line**

**No Impact.** The “Resource Conservation Element” of the 2035 Kings County General Plan contains several goals and policies pertaining to biological resources. The resource conservation goals of the Kings County General Plan relating to biological resources are summarized as follows: 1) protect the Kings River and associated riparian habitat; 2) preserve land that contains important natural plant and animal habitats; 3) maintain the quality of natural wetland areas; 4) protect and manage riparian environments as valuable resources. The corresponding policies require biological assessments of proposed development projects, including coordination with the resource agencies and compliance with their permitting requirements, and mitigation for potential impacts to biological resources (Kings County 2010b). The project would assure consistency with the General Plan goals and policies on biological resource projection through completion of this environmental impact review pursuant to CEQA, including project incorporation of mitigations recommended by the resource agencies. Thus the Aquamarine Solar Project and Gen-Tie Line would be consistent with the relevant General Plan goals and polices and would have *no impact* in terms of conflicts with those policies.

Kings County does not have any ordinances protecting biological resources, such as a tree preservation ordinance. However, General Plan Resource Conservation Policy E1.1.2 requires the preservation of healthy native trees as a primary objective in the review of development projects (Kings County 2010b). Neither the Aquamarine project site nor Gen-Tie corridor includes trees, so they would have *no impact* in terms of conflict with this tree preservation policy.
f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Aquamarine Solar Facility and Gen-Tie Line

No Impact. As discussed in ‘Biological Setting’ above, the only HCP that may apply to the project is PG&E’s “San Joaquin Valley Operations and Maintenance Habitat Conservation Plan.” The proposed project is within the boundaries of the HCP. Although the HCP covers operational and maintenance activities, it also covers small construction projects such as minor extensions of electrical lines (CDFW 2008). The HCP would likely cover the project’s interconnection to PG&E’s system (at the Gates Substation in Fresno County), but would not cover construction of Aquamarine Solar Project or Gen-Tie Line themselves. The mitigation measures identified above for protection of wildlife during project construction and operation would be compatible with the requirements of the HCP since they also ensure compliance with the federal and state Endangered Species Acts. Therefore, the project would have no impact in terms of potential conflict with this HCP.

The USFWS has adopted the Recovery Plan for Upland Species of the San Joaquin Valley which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The only species covered in the recovery plan that potentially occurs in the project vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded in the project area since 1981, as discussed above. The Recovery Plan does not identify the project site or any other lands in the vicinity as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted (USFWS 1998). Because the San Joaquin kit fox has the potential to occur on the site, the mitigation measures identified above in MM Bio-1 would mitigate any potential project impacts to kit fox. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of potential conflict with the “Recovery Plan.”

Neither the Aquamarine project site nor the Gen-Tie corridor is covered by any other existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), or any other conservation plan adopted at the local, regional, state, or federal level. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of potential conflict with any such plans.

REFERENCES – BIOLOGICAL RESOURCES

https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843

Contained (at page 463) in https://www.countyofkings.com/home/showdocument?id=16804

Contained (at page 260) in https://www.countyofkings.com/home/showdocument?id=19414

http://www.countyofkings.com/home/showdocument?id=3112


https://cs.westlandswater.org/resources/resources_files/misc/Environmental_Docs/201710/Vol1.pdf
4.5 CULTURAL RESOURCES

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<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
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<th>Less Than Significant</th>
<th>No Impact</th>
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<td>a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?</td>
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<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
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<td>c) Disturb any human remains, including those interred outside of dedicated cemeteries?</td>
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The evaluation in this section is based on the cultural resources report prepared by Basin Research Associates in December 2018. The Basin Research Associates report is kept administratively confidential by the Kings County Community Development Agency (CDA) pursuant to Government Code Section 6254, subdivision (r) and Section 6254.10.

The research conducted for the cultural resources report by Basin Research Associates included a prehistoric and historic site records search through the California Historical Resources Information System, Southern San Joaquin Valley Information Center, California State University (CSU) Bakersfield. In addition, Basin Research conducted a review of pertinent literature and archival records, and cultural resources compliance reports on other projects in the area, among other sources.

The Native American Heritage Commission (NAHC) was contacted concerning resources listed on the Sacred Lands Inventory. The NAHC record search was negative for Native American resources in the immediate project area, and 14 tribes or knowledgeable individuals were recommended that could provide additional information. Letters soliciting additional information were sent to the 14 Native American individuals/groups recommended by the NAHC. No responses have been received as of this writing. The County of Kings has completed consultation with the Santa Rosa Rancheria Tachi Yokut Tribe pursuant to AB 52 (see section 4.18 Tribal Cultural Resources for discussion).

Basin Research Associates has conducted archaeological field reviews within the Westlands Solar Park Master Plan Area, including the Aquamarin Project Site and Gen-Tie Corridor, from 2009 to 2018. No evidence of prehistoric or historically significant cultural resources was observed on the Aquamarine Project Site and Gen-Tie Corridor or vicinity during the field reviews.

Setting

Aquamarine Solar Facility and Gen-Tie Line

Native American Resources

Ethnography

Prehistoric occupation and use of the general area dates from perhaps as early as 12,000 years ago. The wetland environment of the nearby Tulare Lake would have provided a favorable environment for
prehistoric Native Americans due to the availability of resources such as fresh water, fish and large game. In the later period beginning about 1,500 years ago, subsistence began to focus on processing of acorns and other plant foods, with a decreased emphasis on hunting and fishing.

The project site was within the territory of the Southern Valley Yokuts tribe known as the Tachi (Tache), whose territory extended from the north and west shores of Tulare Lake to the Kettleman Hills and foothills of the Coast Ranges. The Tachi village of Waiu, one of eight in Tachi territory, was located south of Lemoore along the west side of Mussel Slough where the present rancheria of Santa Rosa Indian Community is located. The location of the Santa Rosa Indian Community of the Santa Rosa Rancheria, California (a.k.a. Santa Rosa Rancheria Tachi Tribe) conforms to the former site of the Tachi village of Waiu. The community, a federally-recognized Indian tribe, is located approximately 7 miles east/northeast of the project site between Jersey and Kent Avenues, west of 17th Avenue. The “Santa Rosa Rancheria” is a designated State of California Ethnic site.

Prehistoric Archaeology

The literature search by Basin Research revealed that one prehistoric isolate (i.e., isolated artifact) had been previously recorded approximately 0.2 miles north of the northeast corner of the Aquamarine project site, as described below:

P-16-000198 consists of an isolated basalt groundstone fragment that was recovered south of the Avenal Cutoff Road along the east side of unimproved agricultural road in the SE 1/4 of the SE 1/4 [corner] of Section 4 T20S R19E during monitoring of trenching for a natural gas pipeline. Because an isolated artifact does not constitute an archaeological site, the find was not eligible for listing on the California Register of Historical Resources.

Additional prehistoric resources have been recorded at locations from 5 to 12 miles south of the Aquamarine project site. All of these resources are located east of SR-41, along the western margins of the former Tulare Lake. These resources include five prehistoric sites (four of which included Native American remains), two combined prehistoric/historic-era sites, and 22 prehistoric isolates. None of these sites is listed on the State Office of Historic Preservation’s Archaeological Determinations of Eligibility for Kings County.

No other prehistoric or combined prehistoric/historic-era sites or isolates have been recorded in the vicinity of the Aquamarine Solar Project and Gen-Tie Line. No National Register of Historic Places or California Register of Historical Resources eligible or listed historic properties/cultural resources, or traditional cultural places (TCPs) have been identified in or adjacent to the Aquamarine project site or Gen-Tie corridor.

The Native American Heritage Commission (NAHC) has indicated that a search of the sacred land file was negative for the presence of Native American resources in the immediate area of the Aquamarine site and Gen-Tie corridor.

Historic-Era Resources

No known Hispanic Period or American Period dwellings or other significant structures, features (e.g., adobe dwellings, or other structures, features, etc.) have been identified in or adjacent to the Aquamarine project site or Gen-Tie corridor. The field inventories and reviews conducted by Basin
Research Associates from 2009 to 2018 found no indications of surface or subsurface significant historic material on or adjacent to the Aquamarine site or Gen-Tie corridor.

One historic-era feature has been recorded in the Aquamarine Solar Project vicinity along the eastern site boundary in the northeast corner of the site. This feature is an electrical transmission line that was recorded in conjunction with the Henrietta Substation upgrade project. This feature has been determined to not be eligible for inclusion on either the National Register of Historic Places or California Register of Historical Resources. This feature is briefly described below:

P-16-000136 consists of a portion of the Camden Junction-Henrietta and Henrietta-Tulare Lake (Line Number 702), a 31.55-mile 70 kV line between Camden Junction south to the Henrietta Substation and then south to the Tulare Lake Substation. The recorded portion of the transmission line runs parallel to a paved road (25th Avenue) from the Henrietta Substation south to Avenal Cutoff Road, and then follows an unimproved agricultural road to a point one mile south of Avenal Cutoff Road (on the east side of the unimproved agricultural road just inside the eastern boundary of the northern portion of the Aquamarine Solar Project site). The resource has been evaluated as not eligible for inclusion on the California or National registers.

No local, state or federal historically or architecturally significant structures, landmarks, or points of interest have been identified within or immediately adjacent to the Aquamarine project site or Gen-Tie corridor. No historic properties which have been listed, determined to be eligible or potentially eligible for inclusion on the National Register of Historic Places or the California Register of Historical Resources have been identified in or adjacent to the Aquamarine project site or Gen-Tie corridor.

Conclusions on Site Archaeology (Prehistoric and Historic)

Review of the archaeological and geo-archaeological data suggest a low potential for exposing subsurface archaeological materials within the project area. This conclusion by Basin Research Associates is based on the general absence of recorded prehistoric and historic archaeological sites within and/or immediately adjacent to the Aquamarine project site and Gen-Tie corridor; the lack of any archaeological discoveries for the past 100+ years within or adjacent to the Aquamarine project site and Gen-Tie corridor; and, the prior disturbance of the native sediments within the project area by agricultural plowing and ripping to a depth of at least three feet over the past 100+ years. In addition, a locational review of the very few recorded archaeological site information within one mile of the Aquamarine Solar Project and Gen-Tie Line indicates an occupation focus on the former shoreline and marsh areas of Tulare Lake rather than valley areas. All of these factors strongly suggest a low potential for the discovery of buried archaeological materials during subsurface disturbance during project construction although isolated prehistoric and historic finds are possible (Basin 2018).

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. The Aquamarine project site and Gen-Tie corridor include no historic properties determined to be eligible or potentially eligible for
inclusion on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). The only historic-era feature on the project site consists of a 70-kV electrical transmission line in the northeast corner of the Aquamarine site, which has been previously evaluated as not eligible for either the NRHP or the CRHR. According to the cultural resources report prepared by Basin Research Associates, there is a low potential for the discovery of significant subsurface materials from the historic era within the Aquamarine project site or Gen-Tie corridor, although it is possible that isolated historical materials may be encountered during subsurface excavation.

Construction activity could result in the inadvertent exposure of historical resources that could be eligible for inclusion on the CRHR. This potentially significant project impact to historic resources would be reduced to a less-than-significant level through the implementation of Mitigation Measure CR-1 below.

**Mitigation Measure CR-1: Protection of Cultural Resources.** In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Aquamarine Solar Project and Gen-Tie Line:

a. **Cultural Resources Alert on Project Plans:** The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.

b. **Pre-Construction Briefing:** The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

c. **Stop Work Near any Discovered Cultural Resources:** The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

d. **Mitigation for Discovered Cultural Resources:** If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s
Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

e. Native American Monitoring: Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.

f. Disposition of Cultural Resources: Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. The Aquamarine project site and Gen-Tie corridor include no known prehistoric archaeological resources determined eligible or potentially eligible for inclusion on the National Register of Historic Places or the California Register of Historical Resources. A previous archaeological field inventory of the Aquamarine project site recorded one prehistoric isolate (artifact) located 0.2 miles north of the northeast corner of the Aquamarine site; however, the isolated artifact is not considered a cultural “site” and therefore is not eligible for either the NRHP or the CRHR.

According to the cultural resources report prepared by Basin Research Associates, there is a low potential for the discovery of significant subsurface cultural materials within the Aquamarine project site or Gen-Tie corridor, although isolated prehistoric finds are possible. Construction operations in areas of native soil could result in the inadvertent exposure of buried prehistoric archaeological materials that could be eligible for inclusion on the CRHR (PRC Section 5024.1) and/or meet the definition of a unique archeological resource as defined in Section 21083.2 of the Public Resources Code (PRC). This potential impact to cultural resources would be reduced to a less-than-significant level through the implementation of Mitigation Measure CR-1 above.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. According to the cultural resources report by Basin Research Associates, no human burials have been recorded on the project site or immediate vicinity. The nearest recorded human remains were found at four sites along or near the
former Tulare Lake shoreline, with the nearest recorded burials found approximately 1.0 miles southeast of the Aquamarine project site, and the remaining three burials located between 7 and 11 miles south of the Aquamarine site and from 5 to 8 miles south of the Gen-Tie corridor. Although considered unlikely, it is possible that human remains could be buried within the Aquamarine project site and Gen-Tie corridor.

Subsurface excavation for the Aquamarine Solar Project and Gen-Tie Line could potentially result in the disturbance of buried human remains. This potential impact would be reduced to less-than-significant levels through implementation of Mitigation Measure CR-2 below.

**Mitigation Measure CR-2: Protection of Buried Human Remains.** In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

a. Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop in the vicinity of the find and the Kings County Coroner shall be notified immediately. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD). The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(e) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

b. Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

**REFERENCES – CULTURAL RESOURCES**

Basin 2018

Basin Research Associates. 2018. *Cultural Resources Assessment Report – Aquamarine Solar Project and Gen-Tie Line, Kings and Fresno Counties, California.* December. [Cultural Resources report is kept administratively confidential by Kings County Community Development Agency per Government Code Section 6254, subdivision (r) and Section 6452.10.]
4.6 ENERGY

Would the project:

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<th>Potentially Significant Unless Mitigation Incorporated</th>
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<tr>
<td>a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</td>
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<td>b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</td>
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Consistent with Public Resources Code Section 21100(b)(3), this impact analysis evaluates the potential for the project to result in a substantial increase in energy demand and/or wasteful use of energy during project construction, operation and maintenance, and decommissioning.

Environmental Evaluation

a) **Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

*Aquamarine Solar Project*

**Less-than-Significant Impact.** The construction of the Aquamarine Solar Project would involve the consumption of fuels for the use of construction tools and equipment, haul trips, and vehicle trips generated by construction workers traveling to and from the project site. Energy would also be used in the manufacture of the solar modules and associated equipment, although the solar modules and other array equipment would be recyclable. As required by CALGreen, 65 percent of construction and demolition waste would be diverted from the waste stream. The efficient use of fuel during construction would occur through implementation of the San Joaquin Valley Air Pollution Control District’s requirement for clean fleet equipment to minimize emissions under Rule 9510 (ISR) which would also indirectly result in greater fuel efficiency. The energy efficiency of fuel consumed by commuting workers and delivery vehicles would be ensured through federal fuel efficiency standards. In addition, the project would be constructed in accordance with the California Building Standards Code and Energy Efficiency Standards, as enforced through plan review and site inspections by the County Building Official.

Operationally, the main objective of the Aquamarine Solar Project is to generate renewable solar energy in order to provide for the reduced statewide reliance on non-renewable fossil fueled generation. The operation of the solar facility would allow for the decommissioning of equivalent generation from a natural gas fired power plant. As discussed in section 4.8 Greenhouse Gas Emissions, the total carbon emissions (as proxy for energy consumption) associated with the Aquamarine Solar Project would be 99 percent less than carbon emissions resulting from a
conventional gas powered plant. The project would also result in energy saved that would otherwise be consumed in transporting fossil fuels to a fossil-fueled power plant. The project would consume a relatively small amount of electricity to operate lights and equipment, but this energy consumption would be negligible compared to the clean energy produced by the project. Since the small amount of electricity consumed during project construction, operation, and decommissioning would be greatly offset by the generation of renewable energy by the project, the energy demand from the Aquamarine Solar Project would not constitute a wasteful, inefficient, or unnecessary use of energy, and the impact would be less than significant.

Gen-Tie Line

Less-than-Significant Impact. The construction of the Gen-Tie Line would involve the consumption of fuels for vehicles and equipment. Energy would also be used in the manufacture of transmission towers and electrical cables, some of which would be recyclable. Construction materials would also be required to be recycled to the extent practicable pursuant to the applicable utility construction standards.

Operationally, the main objective of the Gen-Tie Line is to deliver the renewable solar energy generated by the Aquamarine Solar Project to the state electrical grid. This would help achieve the statewide goal of converting from fossil-fueled power generation to renewable power generation. Thus the relatively small amount of energy consumed in construction of the Gen-Tie Line would be offset by the critical role of the gen-tie facility in enabling the delivery of the renewable solar generation from the Aquamarine Solar Project to the state electrical grid. Thus the minimal energy demand from the Gen-Tie Line would not constitute a wasteful, inefficient, or unnecessary use of energy, and the impact would be less than significant.

In summary, the Aquamarine Solar Project and Gen-Tie Line would not have an adverse effect in terms of energy conservation, and would have a substantial beneficial effect by way of implementing the statewide goal of conversion from fossil-fueled power generation to renewable power generation.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Aquamarine Solar Project and Gen-Tie Line

No Impact. At the local level, there are several policies contained in the 2035 Kings County General Plan which directly address renewable energy or energy efficiency. In the Resource Conservation Element, RC Policies G1.2.1 through G1.2.6 promote the use of renewable energy sources such as solar, wind, and biomass projects, and provide guidance for their appropriate placement and project review. RC Policies G1.3.1 through G1.3.4 address energy conservation and project design measures for reducing energy demand (Kings County 2010b). The Aquamarine Solar Project and Gen-Tie Line would advance the implementation of these policies by providing a new source of renewable energy.

At the State level, there are numerous plans, policies, and regulations that directly and indirectly address renewable energy and energy efficiency. For energy efficiency in building construction, the
applicable energy conservation requirements are contained in the California Building Standards Code and Energy Efficiency Standards, which have been incorporated into the Kings County Building Code. The Aquamarine project would incorporate the applicable energy efficiency standards in its construction, as enforced by the County Building Official. Therefore, the determination of significance under this criterion is whether the project would hinder or delay implementation of the statewide GHG reduction targets set forth in AB 32.

The State’s primary mandate for renewable energy is embodied by AB 32 – The California Global Warming Solutions Act, which is implemented through its Scoping Plan. The 2017 Climate Change Scoping Plan adopted by the California Air Resources Board outlines the strategies for achieving the emissions reduction target mandated in AB 32. One of the key strategies is the Renewables Portfolio Standard (RPS), which now requires all electric utilities in California to include a minimum of 60 percent renewable generation sources in their overall energy mix by 2030 (CARB 2017). As a solar photovoltaic generating facility and supporting gen-tie, the Aquamarine Solar Project and Gen-Tie Line will help increase the proportion of renewables in the statewide energy portfolio, thereby furthering the implementation of RPS by the target year instead of obstructing its implementation. The addition of the project’s solar generation to the state’s electrical supply will help facilitate the retirement of existing older fossil-fueled generation plants, thereby avoiding or offsetting those sources of GHG emissions. Therefore, the Aquamarine Solar Project and Gen-Tie Line would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, thus would have no impact in this regard.

REFERENCES – ENERGY


## 4.7 GEOLOGY AND SOILS

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<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
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<tr>
<td>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
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<td>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?</td>
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<td>ii) Strong seismic ground shaking?</td>
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<td>iii) Seismic-related ground failure, including liquefaction?</td>
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<td>iv) Landslides?</td>
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<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
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<td>c) Be located on a geologic unit or soil 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?</td>
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<td>d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating direct or indirect risks to life or property?</td>
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<td>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?</td>
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<td>f) Directly or indirectly destroy a unique paleontological resource or site of unique geologic feature?</td>
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### Setting

**Aquamarine Solar Project and Gen-Tie Line**

**Site Geology**

The Aquamarine project site and Gen-Tie corridor are located in the Great Valley Geomorphic Province, a topographic and structural basin bounded on the east by the Sierra Nevada and on the west by the Coast Ranges. The Sierra Nevada are part of a fault block which dips gently to the southwest which forms the bedrock beneath the valley. This basement complex is composed of igneous and metamorphic rocks of pre-Tertiary age. These are in turn overlain by Quaternary period alluvium, including material from the Pleistocene Epoch (about 2.6 Million to about 10,000 years ago), which is covered by layer of Holocene Epoch (about 10,000 years ago to present) of varying thickness.

**Tectonics and Seismicity**

There are no Alquist-Priolo Earthquake Fault Zones mapped in the vicinity of the Aquamarine project site or the Gen-Tie corridor (CGS 2014). However, there are several active faults in the Coast Ranges to the...
west, including the San Andreas Fault Zone, the Nunez Fault Zone, and the Great Valley Fault System. The nearest segment of the San Andreas fault is located about 35 miles southwest of the Aquamarine project site and it is estimated to be capable of producing a magnitude 7.7 earthquake along the nearest segments to the project area.

The Nunez Fault Zone, a 3-mile long fault zone located 2 miles northwest of Coalinga, was the epicenter of the 6.2 magnitude 1983 Coalinga earthquake. The Nunez fault is a designated Alquist-Priolo Earthquake Fault Zone and is located about 27 miles west of the Aquamarine project site and 23 miles west of the Kings County portion of the gen-tie corridor at the nearest points.

The Great Valley Fault System, which runs parallel to and east of the San Andreas Fault zone, is composed of blind thrust faults, which do not intersect the ground surface but can cause significant shaking and ground deformation. The nearest segment of this fault system is the Kettleman Hills segment which is located approximately 22 miles southwest of the Aquamarine project site and 18 miles from the Gen-Tie corridor at the nearest points. The 6.5 magnitude Coalinga earthquake in 1983 (25 miles west) and the 6.1 magnitude Kettleman Hills earthquake in 1985 (17 miles southwest) occurred within this fault complex (Kings County 2010e).

**Soils**

The soils on the Aquamarine site consist almost entirely of Lethent clay loam, with a small area along the western boundary consisting of Calflax clay loam, saline-sodic. These soils have very similar characteristics and are both described as very deep, moderately well-drained, saline-alkali soils. The shrink-swell potential of these clayey soils is moderate to high, runoff is slow to very slow, and hazard to erosion is slight. Limitations include very low to moderately low permeability and moderate to severe shrink-swell (expansion) potential. The saline-alkali condition of the soils causes high corrosivity to steel and concrete (NRCS 1986, 2006).

The soils along the 8.7-mile Kings County portion of the Gen-Tie corridor consist of Lethent clay loam (61%), Westhaven clay loam (30%), and Westhaven loam (9%). As discussed above, the Lethent and Westhaven clay loams have moderate permeability, moderate shrink-swell potential, slight erosion hazard, and are highly corrosive to uncoated steel and moderately corrosive to concrete. The Westhaven loam has moderate permeability, moderate shrink-swell potential, slight erosion hazard, and is highly corrosive to uncoated steel and moderately corrosive to concrete (NRCS 1986).

[Note: A detailed description of geological and soils conditions and corresponding regulatory context applicable to the Aquamarine Project and Gen-Tie Line is contained in the Draft Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which is incorporated into this document by reference pursuant to Section 15150 of the State CEQA Guidelines (WWD 2017b).]

**Paleontological Resources**

Paleontological resources comprise fossils – the remains or traces of once-living organisms preserved in sedimentary deposits – together with the geologic context in which they occur. Fossils are scientifically important as they provide the only available direct evidence of the anatomy, geographic distribution, and paleoecology of organisms of the past. Significant paleontological resources may include vertebrate fossils and their associated taphonomic (fossilization) and environmental indicators; invertebrate fossils; and/or plant fossils.
Chapter 4 – Evaluation of Environmental Impacts

4.7 – Geology and Soils

The surface soils of western Kings County are underlain by alluvium deposited during the Quaternary period (approximately 2.6 million years to present). Quaternary alluvium is further divided into a number of subunits, including the following units that occur in the general project vicinity: Quaternary fan deposits (Qf), formed from materials eroded from the Coast Ranges to the west and deposited by streams in alluvial fans; Quaternary lake deposits (Ql), consisting of materials deposited on the lakebed of former Tulare Lake to the east and southeast; and Quaternary basin deposits (Qb), consisting of materials deposited by Kings River flows and overbank flood events. Quaternary fan and lake deposits are considered to have a high sensitivity for paleontological resources, while Quaternary basin deposits have a low paleontological sensitivity (CHSRA 2012). Most of the Aquamarine project site is mapped within an area of Quaternary basin deposits, except at the extreme eastern edge of the site where about 50 acres are mapped as Quaternary lake deposits. Most of the Gen-Tie corridor is also mapped within an area of Quaternary basin deposits, except for the western 2.1 miles of the corridor which are mapped as Quaternary fan deposits (CGS 1965).

Most of the Aquamarine project site and most of the Gen-Tie corridor are located within the area mapped as Quaternary basin deposits, which indicates a low potential for buried fossils. However, significant fossil discoveries have occurred in Quaternary basin deposits elsewhere in the region, so there is some potential for fossils to occur in same Quaternary unit in the project area. A relatively small portion of the Aquamarine site is mapped as Quaternary lake deposits, and a minor portion of the Gen-Tie corridor is mapped as Quaternary fan deposits. As noted above, both the Quaternary fan and lake deposits are considered to have a high sensitivity for paleontological resources.

On a temporal scale, the Quaternary period is divided into two epochs or ages, including the Pleistocene Epoch (about 2.6 million to 10,000 years ago) and the more recent Holocene Epoch (about 10,000 years ago to present). The Pleistocene Epoch is informally termed the Ice Age, and this is the depositional period which yields vertebrate fossils. The Holocene deposits, which comprise more recent layers that were deposited on top of the Pleistocene material, yield few if any vertebrate fossils and thus have a low paleontological sensitivity. However, the thickness of the Holocene layer covering the paleontologically sensitive Pleistocene (or older Quaternary) alluvium is highly variable, so it is often difficult to determine the depth at which the older Quaternary alluvium occurs at a given location. It is useful to consider Caltrans’ experience on this issue, given its involvement with numerous construction projects involving deep excavations in Quaternary sediments in the San Joaquin Valley. Caltrans has found that while low sensitivity Holocene materials can cover older fossil-bearing alluvium to substantial depths, Caltrans’ projects have encountered sensitive fossils at depths as shallow as 5 to 8 feet at sites underlain by Quaternary alluvium (Caltrans 2018). There are no records or reports of known vertebrate fossil localities within the Aquamarine Solar Project and Gen-Tie Line area (Basin Research 2018). Although the depth of the Holocene layer at the project site is unknown, lack of reported fossils in the area suggest that fossils are not common, at least in the upper portions of the local sedimentary deposits. Based on the information presented above, it highly unlikely that fossils are present on the Aquamarine project site or Gen-Tie corridor at depths shallower than 5 feet below the ground surface.

There are several major fossil localities in western Kings County, including the Witt site located 15 miles south/southeast of the Aquamarine project site on the southwest shoreline of former Tulare Lake. The Witt site, which is associated within Quaternary lake deposits, has yielded numerous vertebrate species including mammoth, camel, horse, bison, dire wolf, and many fish species (Gobalet 1993).
Other well-known fossil beds occur in the Kettleman Hills, located approximately 15 miles the southwest of the Aquamarine project site and 7 miles southwest of the Gen-Tie corridor, beyond the western margins of the San Joaquin Valley where the deep alluvium has transitioned to shallow soils covering bedrock outcrops. The fossil-bearing rock formations include geologic deposits of the Etchegoin, San Joaquin, and Tulare Formations which date from the Pliocene age (roughly 4.5 to 2.0 million years old).

Environmental Evaluation

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

Aquamarine Solar Project and Gen-Tie Line

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 Impact. The Aquamarine project site and gen-tie corridor (“project area”) is not included in an earthquake fault zone designated by the California Division of Mines and Geology pursuant to the Alquist-Priolo Act. In addition, the Health and Safety Element of the 2035 Kings County General Plan states “[t]he County has no known major fault systems within its territory” (Kings County 2010e). Since there are no known earthquake faults on or near the project area, there are no impacts associated with the Aquamarine Project or Gen-Tie Line relative to surface rupture of an earthquake fault.

ii) Strong seismic ground shaking?

Less-than-Significant Impact. The project area is located in one of the more seismically active areas of California, with several major faults within a 50-mile radius capable of generating maximum credible earthquakes of 6.5 Richter Magnitude or greater. The estimated peak horizontal ground acceleration within the project area during an earthquake is 0.20 - 0.40g (g = force of gravity) (USGS 2014).

Groundshaking resulting from a large or moderate earthquake centered on faults in the western foothills would cause dynamic loading resulting in stress to structures at the Aquamarine project site and Gen-Tie corridor. However, structures designed and built in accordance with the California Building Code are expected to respond well. The CBC structural design standards provide for high degree of seismic strength and resistance to lateral forces (strong shaking) in order to minimize risks to public safety and damage to property. The California Building Code has been adopted as the Kings County Building Code, which is implemented and enforced by the Kings County Building Official and Building Inspectors through building permit reviews, approvals, inspections, and final sign offs.

The following passage from page 8 of the “Health and Safety Element” of the 2035 Kings County General Plan is relevant to this discussion:
“Damage and injury resulting from geologic hazards can be reduced to acceptable levels through zoning and building permit review procedures and construction standards. New construction conforming to the standards of the California Building Code (CBC) will provide adequate protection.”

In addition, the Gen-Tie corridor would be subject to geotechnical investigations to evaluate ground accelerations for design of all planned transmission structures to ensure conformance with applicable design standards for the anticipated seismic forces.

In summary, the potentially significant impacts due to groundshaking at the Aquamarine project would be reduced to less-than-significant levels through implementation of the applicable seismic design standards of the California Building Code, and potential impacts to the Gen-Tie Line would be reduced to less-than-significant levels through implementation of geotechnical recommendations for seismic design of the Gen-Tie Line, as enforced by the Kings County Building Division.

**iii) Seismic-related ground failure, including liquefaction?**

**Less-than-Significant Impact.** Seismic ground failures can include liquefaction and seismically-induced differential settlement, as discussed below.

Soil liquefaction is the phenomenon in which a saturated, cohesionless soil loses structural strength during an earthquake as a result of induced shearing strains, which essentially transforms the soil to a liquid state resulting in ground failure or surface deformation. Liquefaction can result in total and differential settlement of structures. Conditions required for liquefaction typically include fine, well-sorted, loose sandy soil, high groundwater, higher intensity earthquakes, and particularly long duration of ground shaking.

No regulatory mapping of liquefaction zones has been prepared by the California Geological Survey for the project area, with the nearest such mapping completed for Santa Clara County (CGS 2014). The Lethent and Calflax soils that cover the Aquamarine project site have high clay content, indicating a low susceptibility to liquefaction. The nearest groundwater within the Aquamarine project site was most recently (April 2017) mapped at 5-10 feet below the ground surface (WWD 2017). In the presence of the clayey soils on the Aquamarine site, the relatively high groundwater conditions would not be sufficient to induce liquefaction during a seismic event.

Along the eastern 5.3 miles of the Gen-Tie corridor, soils consist of Lethent clay loam and Westhaven clay loam, saline-alkali; and in the western 2.4 miles the soils consist of Westhaven loam. Groundwater levels along the Gen-Tie corridor range from a high of 15 feet below ground surface in the east to a low of 25 feet below ground surface at the Fresno County line (WWD 2017). The high clay content of the Lethent and Westhaven clay loam soils indicate a low susceptibility to liquefaction. The Westhaven clay loams in the western portion of the gen-tie corridor would generally be more susceptible to liquefaction, but the water table is at 20 to 25 feet below the ground surface in this area, which would preclude saturated soil conditions necessary for liquefaction to occur.

In addition, the “Health and Safety Element” of the 2035 Kings County General Plan, it states “[t]he risk and danger of liquefaction and subsidence occurring within the County is considered to be minimal” (Kings County 2010e). The potential impacts to the Aquamarine Solar Project and Gen-Tie Line due to liquefaction would be less than significant.
Seismic settlement can occur when saturated and unsaturated granular soils become rearranged during groundshaking resulting in a volume reduction and surface deformation. The magnitude of seismic settlement is a function of the relative density of the soil and the magnitude of cyclic shear stress caused by seismic ground motion. Seismic settlement has the greatest potential to occur in locations where loose granular materials such as sandy soils are present above the groundwater table. The relatively dense clay soil that typifies the Lethent, Calflax, and Westhaven clay loams that cover the Aquamarine project site and most of the Gen-Tie corridor, are associated with a low potential for surface deformation resulting from seismic settlement (CEC 2001). The Westhaven loams along the western 2.4 miles of the Gen-Tie corridor would have a somewhat higher potential for surface deformation; however, the potential for seismic settlement would be addressed through geotechnical studies which would identify soil engineering specifications to ensure that tower footings would be designed meet applicable standards to prevent settlements. As such, the potential impacts to the Aquamarine Solar Project and Gen-Tie Line due to seismic settlement would be less than significant.

iv) Landslides?

No Impact. No regulatory mapping of landslide zones has been prepared by the California Geological Survey for the project area, with the nearest such mapping completed for Santa Clara County (CGS 2014). The project area is not mapped as lying within a landslide hazard area by USGS landslide mapping which shows the nearest landslide areas in the foothills of the Coast Ranges to the west (USGS 1997). In addition, the “Health and Safety Element” of the 2035 Kings County General Plan indicates that project area is defined as having a “low” susceptibility to landslides (Kings County 2010e). The nearly level terrain of project area has a very low potential for landslides. As such, the Aquamarine Solar Project and Gen-Tie Line are associated with no impact relative to landslides.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. The Lethent and Calflax clay loam soils covering the Aquamarine site, as well as the Lethent and Westhaven clay loams and Westhaven loams that characterize the Gen-Tie corridor, all have slow to very slow runoff potential with a correspondingly slight hazard of water erosion (NRCS 1986, 2006). However, the seasonal high wind conditions (typically from March to June) results in high potential for wind erosion within the project area (Kings County 2010b).

The grading, excavation, vegetation removal, and ground disturbance during construction would expose the soil to potential erosion from wind and rain. As described in section 2.2 Project Description, existing vegetation within a given area of the Aquamarine project would only be removed when that area is scheduled for installation of solar arrays. Existing topsoil would not be removed, and once the installation of solar arrays in a given area is complete, the affected area would be revegetated with a native seed mix. For the Gen-Tie Line, ground disturbance would be largely confined to the monopole sites, which would involve less that one acre of temporary disturbance at each monopole site. In order to prevent erosion caused by stormwater runoff, soil stabilization and erosion control measures would be employed throughout the grading and construction of each increment of solar development and gen-tie construction, as specified in Mitigation Measure HYD-1 (see section 4.10. Hydrology and Water Quality, item ‘c’).
The specific erosion controls to be implemented at the Aquamarine project site and within the Gen-Tie corridor will be specified in the Storm Water Pollution Prevention Plans (SWPPPs), as required for all projects over 1 acre in size by the State Water Resources Control Board. The SWPPPs for the Aquamarine and Gen-Tie projects will specify Best Management Practices (BMPs) such as stormwater runoff control and hazardous waste management measures, and will include monitoring and reporting procedures.

Typical erosion control measures include: diversion of runoff away from disturbed areas, protective measures for sensitive areas, mulching for soil stabilization, straw-bale barriers, and siltation or sediment ponds. Specific BMPs for the Aquamarine and Gen-Tie projects will be determined during the final engineering design stages for each project. Approval of each respective project SWPPP by the Regional Water Quality Control Board will be obtained prior to initiation of ground disturbing activities for each phase. Regional Board staff is responsible for inspections of construction sites to ensure the effectiveness of BMPs specified in the SWPPPs.

With the implementation of the measures specified in the SWPPPs, the potential for the Aquamarine Solar Project and Gen-Tie Line to result in erosion impacts would be reduced to less-than-significant levels.

[Note: The potential erosion and siltation impacts are discussed in greater detail in section 4.10. Hydrology and Water Quality.]

c) Would the project 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?

**Aquamarine Solar Project and Gen-Tie Line**

*Less-than-Significant Impact*. As discussed above, the Aquamarine project site and Gen-Tie corridor are not susceptible to landslides, liquefaction, or seismic settlement. The potential for lateral spreading and land subsidence is discussed below.

Lateral spreading (or liquefaction-induced lateral spreading) can occur with seismic ground shaking on slopes where saturated soils liquefy and flow toward the open slope face. The lands of the Aquamarine project site and Gen-Tie corridor are essentially flat and do not include significant slopes with the exception of the channel banks of the irrigation canals and drainage ditches that run through the Aquamarine site and alongside the portion of the Gen-Tie corridor that runs along the 25th Avenue alignment. These channels are periodically cleared of vegetation to maintain their hydraulic capacity, resulting in exposed earth channel faces with about 2:1 slopes. However, the clay soils of the project area are not susceptible to liquefaction, so the similarly stiff clay soils along the open slope faces of the channels would likewise not be subject to lateral spreading resulting from liquefied soils. (At the western end of the Gen-Tie corridor where the soil unit is Westhaven loam, there are no open channels and thus there is no potential for lateral spreading in this area.) In summary, the potential impact from lateral spreading on or near the Aquamarine project site or the Gen-Tie corridor would be less than significant.
Ground subsidence is typically caused when overdrafts of a groundwater basin reduce the upward hydraulic pressure that supports the overlying land surface, resulting in consolidation/settlement of the underlying soils. Large areas of the San Joaquin Valley, including the project area, have been subject to subsidence from groundwater use for a number of years. Mapping by the U.S. Bureau of Reclamation shows that from the years 1926 to 1970, the land at the Aquamarine project site subsided by more than 10 feet (USBR 2011). From 2007 to 2011, the land at the Aquamarine site subsided between 0.5 and 1.0 feet (CWF 2014). As discussed in section 4.10. Hydrology and Water Quality, groundwater pumping in the area can exceed the safe yield of the groundwater basin during years when severe curtailment in surface water deliveries from the Central Valley Project necessitates increased pumping of groundwater to make up for reductions in imported supplies. The overpumping of groundwater and resulting subsidence is the cumulative result of water withdrawals from many agricultural wells. As discussed in section 4.10. Hydrology and Water Quality, the Aquamarine Solar Project would use a small fraction of the groundwater that is typically used for agricultural irrigation for the same area of land. Therefore, the Aquamarine project would have a beneficial impact in that it would help alleviate the ongoing cumulative subsidence impacts by causing a reduction in overall groundwater use in the valley. The Gen-Tie Line would require very little water during construction and negligible amounts of water during operation. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no adverse impact in terms of land subsidence.

**d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

**Aquamarine Solar Project**

**Less-than-Significant Impact with Mitigation Incorporated.** Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell during seasonal wetting and drying cycles. The ability of clayey soil to change volume with variations in moisture content can result in uplift or cracking to foundation elements or other rigid structures such as slabs-on-grade, rigid pavements, or other slabs or hardscape founded on these soils. The Lethent and Calflax clay loam soils covering the Aquamarine project site have a moderate to high shrink-swell potential (NRCS 1986, 2006). Figure HS-4 of the 2035 Kings County General Plan “Health and Safety Element” also identifies the project site as having expansive soils (Kings County 2010e). As such, there is a potential for damage to project pads and foundations as a result of soils expansion beneath these structures. In order to reduce the potential impacts from soils expansion to less-than-significant levels, the following mitigation measure would be implemented in conjunction with the Aquamarine project.

**Mitigation Measure GEO-1a: Expansive Soils within Aquamarine Project Site.** Prior to the issuance of the first building permit for each phase of the Aquamarine Solar Project, the applicant shall retain a qualified registered civil engineer to prepare a preliminary soils report, based on soil borings or excavations, to determine the potential for soils expansion and to prepare recommendations for corrective actions to mitigate potential damage to project structures due to potential soils expansion. The preliminary soils report shall be submitted to Kings County Community Development Agency Building Division for review and approval. The potential damage from soils expansion can be reduced by one or more of several alternative engineering measures, as recommended by the registered civil engineer. These measures could include:
overexcavation and replacement with non-expansive soils; extending foundations below the zone of shrink and swell; chemically treating the soils with quicklime or cement; or foundation design measures. The corrective measures specified by would become conditions of Building Permit approval and would be subject to inspection and approval by the Kings County Building Official.

Although the entire Aquamarine site is mapped as being underlain with expansive soils, there is potential for variability of expansiveness of the soils depending on location within the site. In addition, the project facilities that would be most subject to damage from soils expansion would be equipment pads and foundations. Since the precise locations of the equipment pads will not be determined until the final engineering design stage, the soil borings and/or excavations required to determine the soils expansion characteristics at those sites, as well as the recommendations for appropriate corrective actions to be undertaken at those sites, must be made in conjunction with the final engineering design for the project. The final engineering design for the project will take place after approval of the Conditional Use Permit and prior to issuance of the Building Permits for the project. With the implementation of Mitigation Measure GEO-1, the potential risks to life or property at the Aquamarine Solar Project due to potential soils expansion would be less than significant.

Gen-Tie Line

The soils along approximately 90 percent of the Kings County portion of the Gen-Tie corridor consist of Lethent, Calfax, or Westhaven clay loams, all of which are moderately to highly susceptible to soils expansion. Therefore, the potential hazard to structures from expansive soil conditions represents a potentially significant impact. With implementation of Mitigation Measure GEO-1b below, the potential impact at the Gen-Tie Line due to potential soils expansion would be reduced to less than significant.

Mitigation Measure GEO-1b: Expansive Soils within Gen-Tie Corridor. Prior to final project design for the Gen-Tie Line, the project proponent shall retain a qualified geotechnical engineer to undertake a soils investigation to determine the potential for soils expansion within the Gen-Tie corridor and to prepare recommendations and foundation design specifications to mitigate potential damage to project structures due to soils expansion.

e) Would the project 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?

Aquamarine Solar Project

Less-than-Significant Impact. The Aquamarine Solar Project will utilize an on-site septic tanks and leachfields for disposal of wastewater associated with the O&M building. Since the project site is located in an area with a perched water table, it is designated by Kings County as an area requiring engineered septic systems. As such, the septic and leachfield system at the Aquamarine project will be designed and constructed as specified by a qualified registered professional engineer, and subject to approval of the Kings County Building Official, which would ensure effective functioning of the septic and leachfield system and avoid impacts to groundwater quality. Therefore, Aquamarine
The project would result in a less-than-significant impact in terms of capability of the site soils to adequately support septic systems.

**Gen-Tie Line**

**No Impact.** The Gen-Tie line would not require any permanent wastewater facilities. As such, the Gen-Tie Line would result in no impact in terms of capability of the site soils to adequately support septic systems.

**f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Aquamarine Solar Project and Gen-Tie Line**

**Less-than-Significant Impact with Mitigation Incorporated.** There is a very low potential for paleontological resources to be present within the recent alluvium that characterizes the surface material of the Aquamarine project site and Gen-Tie corridor, because these sediments are too recent to preserve significant fossils. There is a greater potential for paleontological resources to be present in the older alluvium that underlies the surface alluvium at depth, although the precise depth to older alluvium in the project area is unknown. Based on the shallowest depths at which fossils have been found in similar Quaternary sediments in the region, there is a potential for the discovery of fossils if excavations penetrate below 5 feet. Most excavations for the Aquamarine Solar Project will involve trenching for electrical cable which would involve trenching to a depth of 3 feet, or 4 feet at most. Some project elements, such as deeper utility lines, may require excavations deeper than 5 feet, and borings for monopole footings in the Gen-Tie Line would extend as deep as 20 feet or more, which could potentially disturb or destroy important fossils. The potential impact to paleontological resources would be reduced to a less-than-significant level through implementation of Mitigation Measure GEO-1 below.

There are no unique geologic features which could be adversely affected by the Aquamarine Solar Project or Gen-Tie Line.

**Mitigation Measure GEO-2: Protection of Paleontological Resources.** In order to avoid the potential for impacts to paleontological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Aquamarine Solar Project and Gen-Tie Line:

a. If paleontological resources are discovered during excavation activities at the project site, work within 100 feet of the find shall cease, and a qualified professional paleontologist shall be retained to evaluate the significance of the resources and make recommendations regarding the treatment, recovery, and curation of the resources, as appropriate. Treatment of any significant paleontological resources shall be undertaken with the approval of the Kings County CDA.
REFERENCES – GEOLOGY AND SOILS


http://www.countyofkings.com/home/showdocument?id=3118

https://www.municode.com/library/ca/kings_county/codes/code_of_ordinances


https://cs.westlandswater.org/resources/resources_files/misc/Environmental_Docs/201710/Vol1.pdf
4.8 GREENHOUSE GAS EMISSIONS

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly,</td>
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<td>☐</td>
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<tr>
<td>that may have a significant effect on the environment?</td>
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<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for</td>
<td>☐</td>
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<tr>
<td>the purpose of reducing the emissions of greenhouse gases?</td>
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</table>

Setting

The accumulation of greenhouse gases (GHGs) in the atmosphere has been determined to be a causative factor in climate change. Greenhouse gases trap heat in the atmosphere, which in turn heats the surface of the earth. The increase in the average temperature of the atmosphere near the earth’s surface is associated with significant changes in global climate patterns. Potential impacts of global warming include a rising sea levels, reductions in Sierra snowpack, increase in extreme weather events, increased risk of large wildfires, and adverse changes to marine and terrestrial ecosystems.

Some GHGs are naturally occurring and are emitted through natural processes, while others are emitted solely from human activities. The predominant source of non-natural GHG emissions is the use of fossil fuels which produces carbon dioxide (CO₂) as a byproduct of combustion. Other GHGs include methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

In an effort to avert the consequences of climate change, the California State Legislature enacted the California Global Warming Solutions Act (AB 32) in 2006. AB 32 established a state goal of reducing GHG emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emissions levels), and required the California Air Resources Board (CARB) to establish a comprehensive program to implement this goal. In 2016, the legislature passed SB 32 which extended the goals of AB 32 and set a 2030 goal of reducing 2030 emissions by 40 percent from 2020 levels.

One of the key implementation programs is the Renewables Portfolio Standard (RPS) which mandates that renewable generation sources comprise at least 33 percent of electrical utilities’ total power generation by 2020. Qualifying renewable generation sources include solar, wind, small hydro, geothermal, and biomass. In September 2018, Governor Brown signed SB 100, which updated the required renewables content of electricity generation to 50 percent by 2025 and 60 percent by 2030, and puts California on the path to implement a zero-carbon electricity grid by 2045.

A comprehensive description of the GHG setting and regulatory context of the Aquamarine Solar Project area is provided in the Draft PEIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which is incorporated into this document by reference. The description of the overall GHG setting is found on pages 3.3-14 through 3.3-15 of the PEIR (WWD 2017b).
Environmental Evaluation

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. The proposed project would generate greenhouse gas (GHG) emissions through direct consumption of fossil fuels, primarily related to construction, traffic generation, and facility maintenance. The GHG emissions resulting from both project construction and operation were estimated by Illingworth & Rodkin using the CalEEMod model (see Appendix B of this document). The estimated emissions for both the Aquamarine Solar Project and Gen-Tie Line are presented in Table 9. As shown in Table 9, annual average project GHG emissions would be the equivalent of approximately 959 Metric Tons per year. Since the operation of the solar facility itself would result in zero GHG emissions, the relatively small amount of project GHG emissions results largely from the initial construction activity, along with the incidental maintenance activity during project operation.

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<tbody>
<tr>
<td>Aquamarine Solar</td>
<td>7,652</td>
<td>7,652</td>
<td>15,304</td>
<td>612.16</td>
<td>291.75</td>
<td>903.89</td>
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<tr>
<td>Gen-Tie (Kings Co.)</td>
<td>1,384</td>
<td>NA</td>
<td>1,384</td>
<td>55.36</td>
<td>0</td>
<td>55.36</td>
</tr>
<tr>
<td>Totals</td>
<td>9,036</td>
<td>7,652</td>
<td>16,688</td>
<td>667.52</td>
<td>291.75</td>
<td>959.27</td>
</tr>
</tbody>
</table>

1 MTCO₂e = Metric Tons CO₂ Equivalent
2 Decommissioning emissions would be similar to construction emissions, and are assumed to be same for purposes of this analysis.
3 Construction and decommissioning emissions are amortized over the 25 year life of the project.

Upon completion, the 250 MW Aquamarine Solar Project would generate approximately 618,000 MWh/yr., which reflects the average generation of 2,473 MWhr/MW/yr for Kings County solar PV generating facilities in 2017 (CEC 2019). This is equivalent to the electrical consumption of 88,285 average California homes (at 7,000 KWh/yr). This electric power would be dispatched to the California Independent System Operator (CAISO) in accordance with a complex and dynamic formula that takes into account numerous variables in ongoing dispatching decisions to meet demand for electricity at any given time. One of those variables is compliance with the mandate to integrate electricity generated from renewable sources into the system at a predetermined rate, i.e., 60 percent by 2030 as mandated by SB 100, signed into law in September 2018. Since fossil fuel sources are typically less expensive and more reliable than renewable sources at the utility scale, it
is expected that in the absence of an RPS mandate, these fossil sources would continue to be the dominant fuel source for electrical generation in California. Thus renewable sources of electricity, such as solar generation, are considered to offset an equivalent amount of generation from other fuel sources, such as natural gas or coal, which would otherwise be dispatched by the CAISO in the absence of an RPS mandate. In other words, the installation and operation of solar facilities, such as the Aquamarine Solar Project, would result in a net reduction of fossil-based generation, and hence a net reduction in CO₂ emissions, relative to overall CO₂ emissions that would occur without the project.

In order to quantify the amount of net reduction in CO₂ emissions that would be represented by the project, the CO₂ emissions from a fossil plant with the same electrical output was considered for comparison. For the most efficient natural gas fired power plants (i.e., combined cycle plants) the California Air Resources Board applies an average GHG emission factor of 0.378 MTCO₂e per MWh in calculating emissions avoided by renewable generation (SJ LAFCO 2011). (For comparison, the USEPA requires new natural gas power plants to emit no more than 1,000 lbs per MWh [0.454 MTCO₂e per MWh.]) (EE News 2013). With the application of CARB’s factor, a gas-fired plant generating 618,999 MWh/yr (the equivalent of the Aquamarine Solar project) would produce annual GHG emissions of approximately 233,604 MTCO₂e/yr. Compared to the GHG emissions from the Aquamarine Solar Project and Gen-Tie Line (i.e., amortized construction and decommissioning emissions) of 959 MTCO₂e per year (see Table 9), the emissions from an efficient gas-fired power plant would be approximately 244 times greater. Thus the Aquamarine Solar project would represent an annual net reduction of 232,645 MTCO₂e per year, or a 99.6 percent net reduction in GHG emissions compared to the combined cycle gas-fired generation alternative.

In summary, while the Aquamarine Solar Project would result in a relatively low level of GHG emissions during project construction and decommissioning, the zero-emissions electrical generation provided during project operation would result in a net reduction of overall GHG emissions from electricity generation in California. Therefore, the greenhouse gas emissions generated by the project would have a less-than-significant effect on the environment.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Aquamarine Solar Project and Gen-Tie Line

No Impact. There are no local plans, policies or regulations contained in the 2035 Kings County General Plan, the Kings County Zoning Ordinance, or other local guidelines or regulations that directly address greenhouse gas emissions. Therefore, the determination of significance under this criterion is whether the project would hinder or delay implementation of the statewide GHG reduction targets set forth in AB 32.

The 2017 Climate Change Scoping Plan adopted by the California Air Resources Board outlines the strategies for achieving the mandated 2030 emissions reduction target. One of the key strategies is the Renewables Portfolio Standard (RPS), which now requires all electric utilities in California to include a minimum of 60 percent renewable generation sources in their overall energy mix by 2030. As a solar photovoltaic generating facility and supporting gen-tie, the Aquamarine Solar Project and Gen-Tie Line will help increase the proportion of renewables in the statewide energy portfolio,
thereby furthering the implementation of RPS by the target year instead of hindering or delaying its implementation. The addition of the project’s solar generation to the state’s electrical supply will help facilitate the retirement of existing older fossil-fueled generation plants, thereby avoiding or offsetting those sources of GHG emissions. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of conflicting with a plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

REFERENCES – GREENHOUSE GAS EMISSIONS


## 4.9 HAZARDS AND HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>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?</td>
<td>☐</td>
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<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>☐</td>
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</tr>
<tr>
<td>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?</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?</td>
<td>☐</td>
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<tr>
<td>f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>☐</td>
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<tr>
<td>g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?</td>
<td>☐</td>
<td>☐</td>
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</table>

The following discussion of hazards and hazardous materials is partially based on the Phase I Environmental Site Assessment (ESA) prepared on the project site by Moore Twining Associates (MTA) in November 2018, and the Phase II Soil Sampling and Pesticide Analysis report prepared by MTA in November 2018. The MTA reports are contained in Appendix F of this document.

The Phase I ESA by MTA consisted of the following: visual inspections of the site and surrounding areas; reviews of historical aerial photographs, historical topographic maps, local permit records, and other property data sources; reviews of federal and state regulatory lists of known or potential hazardous waste sites or landfills. As part of the Phase I ESA, a government records report, prepared by Environmental Data Resources (EDR), was obtained. This report searches federal and state databases, including California Government Code 65962.5 list (Cortese List) and databases maintained by the Regional Water Quality Control Board, for potential sources of hazardous substances or petroleum that might affect the soil and/or groundwater quality of the project site and its vicinity.

### Setting

The project site is an irregularly-shaped property, approximately 1,825 acres in size, located southeast of Avenal Cutoff Road and centered on the intersection of Laurel Avenue and the 25th Avenue alignment in
Kings County. The western portion of the site (west of the 25th Avenue alignment) comprises 871 acres of cultivated fields, and the eastern portion of the site (east of the 25th Avenue alignment) consists of 954 acres of vacant or fallow fields.

Unpaved irrigation canals are located along Laurel Avenue, the 25th Avenue alignment, and along the eastern and western boundaries of the site. In addition, two lateral unpaved canals were located in the eastern portion of the site, trending from south to north. Overhead electrical transmission lines are located along the 25th Avenue alignment and Laurel Avenue with small power lines branching off through the western and eastern portions of the site.

There are no buildings on the site or in the immediate vicinity. There are two active irrigation wells on the site with associated tanks, filtration systems, and electrical utilities. The water system is connected to PVC and metal irrigation lines that appear to be arrayed throughout the site. Two of the irrigation wells are accompanied by hydraulic pumps and 35-gallon drums of hydraulic oil. One of the hydraulic pumps is located in the eastern portion of the site and appears to be leaking. Staining was observed by MTA on the ground surrounding the drums of hydraulic oil and the hydraulic pumps. A 20 to 30-foot-deep concrete-lined irrigation cistern is located in the west-central portion of the site. One large, approximately 4,000-gallon poly tank is located near the irrigation well on the northwest portion of the site. This area also includes a transformer, a drum of hydraulic oil, and a chain-link fence enclosed tank of chlorine gas. No leaking or staining was observed in this area.

An underground Southern California Gas Company natural gas transmission pipeline runs diagonally through the northwest portion of the site. The pipeline runs parallel to Avenal Cutoff Road about one-half mile southeast of the roadway. An approximately 1.3-mile long segment of the pipeline passes diagonally through the northwest portion of the Aquamarine site. In addition, a spur gas line extends from the transmission pipeline eastward along the south side of Laurel Avenue to the community of Stratford.

Six pole-mounted transformers are located throughout the Site. Transformers in the eastern and western portions of the site are associated with water well pumps, filtration systems, and pumping stations along the canals. No staining or leaking that would prompt an environmental concern was noted.

In the San Joaquin Valley, agricultural lands in active cultivation are typically subject to application of agricultural chemicals including pesticides. In order to determine whether any agricultural chemicals (specifically persistent pesticides) are present in the site soils in concentrations that exceed regulatory thresholds, MTA conducted Phase II program of soil sampling and testing throughout the Aquamarine Solar Project site. The analytical results indicated that the soils are well below regulatory screening levels for organochlorine pesticides and the metal arsenic (MTA 2018b).

Given the past emissions of lead from vehicle exhaust, there is a concern with concentrations of aerially deposited lead along travel corridors such as Avenal Cutoff Road and Laurel Avenue. As part of its soil testing program, MTA also sampled the roadside areas adjacent to the project site for potential lead concentrations. The sample analysis showed that the lead in the samples was below the threshold for Human Health Risk Assessment (HHRA)(MTA 2018b).

No oil or natural gas wells (operating or abandoned) are present on the Aquamarine project site or the Gen-Tie corridor or their immediate vicinity. Southern Kings County and western Fresno County include
several oil and natural gas fields. The nearest oil field is the abandoned Westhaven oil field located west of the project site near the Fresno County line (DOGGR 2001). There are several abandoned oil wells in the Westhaven oil field, the nearest eight of which are in Kings County (all dry holes), located between 1.0 and 2.5 miles from the Aquamarine project site. Along Nevada Avenue, there are six abandoned oil wells (all dry holes) within 1.0 mile of the Gen-Tie corridor (the nearest of which is 500 feet south of Nevada Avenue), and two formerly productive (now idle) oil wells located 1,500 feet and 2,000 feet north of the Gen-Tie corridor. The nearest natural gas fields are located southeast of Kettleman City, approximately 9 miles south of the Aquamarine project site and 6 miles south of the Gen-Tie corridor. The wells in these fields have been abandoned, except for one remaining active gas well located 11 miles southeast of the project site in the Tulare Dry Lakebed (DOGGR 2019).

There is no evidence that the Aquamarine site includes any potential contamination due to disposal, spillage, or leakage of hazardous materials or any other source. A review of federal, state, and local databases indicated that there are no known hazardous materials sites on the project site or surrounding area.

Environmental Evaluation

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Aquamarine Solar Project

Less-than-Significant Impact with Mitigation Incorporated. The Aquamarine Solar Project would involve the use of hazardous materials during construction, project operation, and decommissioning, as discussed below.

Construction

The hazardous materials used during construction of the Aquamarine Solar Project would include gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, welding and soldering supplies, pressurized gases, etc. All hazardous materials would be stored in containers that are specifically designed for the materials to be stored.

During construction, substantial quantities of gasoline, diesel fuel, and transformer insulating oil (mineral oil) will be transported to the site. A spill of these hazardous liquids en route to the project site could result in significant impacts to soil, surface water, groundwater, or the public. However, such materials are routinely and safely transported on public roadways. The transport of large quantities of hazardous materials is strictly regulated by the California Highway Patrol (CHP). Large quantities of hazardous materials used during project construction would be transported along regulated routes by a licensed transporter, and would not pose a significant hazard to the public or the environment.

During construction of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials to less-than-
significant levels, the following mitigation measure shall be implemented in conjunction with the project.

**Mitigation Measure HAZ-1: Protection from Hazardous Materials.** In order to protect the public from potential release of hazardous materials, the following measures shall be implemented during project construction, operation, and decommissioning:

a. The project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of, and to the satisfaction of, the Kings County Public Health Department Environmental Services Division;

b. The project applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the State Water Resources Control Board, and to the satisfaction of the Central Valley Regional Water Quality Control Board.

The potential for minor spills would be largely avoided through implementation of the Hazardous Materials Business Plan (HMBP), as required under the Hazardous Materials Release Response Plan and Inventory Act of 1985. Under this state law, the applicant is required to prepare an HMBP to be submitted to the Kings County Public Health Department, Environmental Health Services Division, which is the Certified Unified Program Agency (CUPA) for Kings County. The HMBP would include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP would include an inventory of the hazardous waste generated on site, and would specify procedures for proper disposal. As required, hazardous waste would be transported by a licensed hauler and disposed of at a licensed facility. According to the HMBP reporting requirements, workers must be trained to respond to releases of hazardous materials in accordance with State and federal laws and regulations governing hazardous materials and hazardous waste (e.g., HAZWOPER training required by OSHA). Any accidental release of small quantities of hazardous materials would be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. As the CUPA for Kings County, the Environmental Health Services Division of the County Public Health Department is responsible for implementation and enforcement of HMBPs. Implementation of the HMBPs for the Aquamarine Solar Project and Gen-Tie Line would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.

In addition, the project proponent will be required to prepare, or to have prepared, and to implement a Storm Water Pollution Prevention Plan (SWPPP) for each phase of the project, as required by the State Water Resources Control Board (SWRCB), and as also specified for the project in Mitigation Measure HYD-1 (for a detailed discussion, see section 4.10 Hydrology and Water Quality). The SWPPPs will specify best management practices for control, containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The implementation and enforcement of SWPPPs at the project site is the responsibility of the Central Valley Regional Water Quality Control Board, whose
responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPPs prepared for each project phase.

In summary, the implementation of Mitigation Measure HAZ-1 would ensure that hazardous materials used in project construction and decommissioning are handled, stored, and disposed of in accordance with the HMBP and SWPPP required to be implemented in conjunction with the project, with oversight by the responsible agencies. Therefore, implementation of Mitigation Measure HAZ-1 would reduce potential for impacts to the public and the environment from routine transport, use, and disposal of hazardous materials during project construction to less-than-significant levels.

**Project Operation**

Operation and maintenance of the Aquamarine Solar Project would involve the transport, use, and disposal of minor amounts of hazardous materials, including motor vehicle fuel, lubricants, antifreeze, used coolant, janitorial supplies, paint, degreasers, pesticides, herbicides, and fire suppressant. During operation of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials during project operations to less-than-significant levels, Mitigation Measure HAZ-1, as set forth above, would be implemented in conjunction with the project.

As described above for the construction phase, compliance with existing laws and regulations governing the handling, storage, containment, clean-up, and disposal of hazardous materials and hazardous waste would minimize the risk to the public and the environment of exposure to hazardous materials. Mitigation of such impacts would be ensured through implementation of Mitigation Measure HAZ-1, which applies to both project construction and project operations.

The transformers within the solar facilities would contain mineral oil, although transformer oil does not ordinarily require replacement. The transformers would be provided with secondary containment to minimize hazard from any leaks or spills.

Herbicides would be used at the Aquamarine Solar Project to control noxious weeds and invasive species, in accordance with the Weed Abatement Plan to be prepared for the project in accordance with the Kings County Zoning Ordinance. The herbicides would be applied by a licensed herbicide applicator, in compliance with the regulations of the U.S. EPA, and the California Department of Pesticide Regulation (DPR). As discussed in item ‘b’ below, modern herbicides and pesticides degrade rapidly and therefore are not considered to pose a contamination hazard according to the California Department of Toxic Substances Control (DTSC 2008). As also discussed in item ‘b’, past agricultural practices on the project site involved the use of environmentally persistent pesticides, although recent soil testing indicated that residual concentrations of these “legacy” pesticides in soils at the site are well below hazardous levels (MTA 2018).

Although not currently proposed, it is possible that the Aquamarine Solar Project could employ thin-film modules containing Cadmium-Telluride (CdTe) which is classified as a hazardous material. In any solar facility, it is expected that some modules will occasionally need replacement during the life of the facility. The potential hazards associated with CdTe PV modules are addressed in detail under item ‘b’ below.
In summary, the implementation of Mitigation Measure HAZ-1 would ensure that hazardous materials used in project operation are handled, stored, and disposed of in accordance with the HMBP and SWPPP required to be implemented in conjunction with the project, with oversight by the responsible agencies. Therefore, implementation of Mitigation Measure HAZ-1 would reduce potential for impacts to the public and the environment from routine transport, use, and disposal of hazardous materials during project construction to less-than-significant levels.

**Decommissioning**

As described in section 2.2 Project Description, when the Aquamarine solar facility reaches the end of its productive life, the solar arrays and supporting infrastructure would be disassembled and removed, with all materials recycled, reused, or disposed of as appropriate in accordance with the Soil Reclamation Plan to be prepared as prescribed in Mitigation Measure AG-2. The materials to be removed would include solar arrays, inverters, transformers, cabling and wiring, and perimeter fencing, among other things. During decommissioning of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials during project decommissioning to less-than-significant levels, Mitigation Measure HAZ-1, as set forth above, would be implemented in conjunction with project decommissioning.

As discussed above, the project could include solar modules containing CdTe. The potential hazards associated with removal of CdTe PV modules are addressed in detail under item ‘b’ below.

In conclusion, the handling, use, storage, transport, and disposal of hazardous materials during the construction, operation, and decommissioning of the Aquamarine Solar Project could potentially result in significant hazards to the public and the environment. The implementation of Mitigation Measure HAZ-1, as set forth above, would be reduce the potential hazard to the public or the environment from routine transport, use, or disposal of hazardous materials associated with the Aquamarine Solar Project to less-than-significant levels.

**Gen-Tie Line**

The construction and maintenance of the Gen-Tie Line would involve the handling and use of hazardous materials such as fuels, lubricants, solvents, welding supplies and other materials. There is a potential for accidental spills or discharges of these materials to occur during construction or operation of the Gen-Tie Line. The potential for impacts to the public and the environment from routine transport, use, and disposal of hazardous materials during construction and operation of the Gen-Tie Line represents a potentially significant impact. With implementation of Mitigation Measure HAZ-1 above, and MM HYD-1 (in section 4.10. Hydrology and Water Quality), the impact would be reduced to less than significant.
b) **Would the project 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?**

**Aquamarine Solar Project**

**Less-than-Significant Impact with Mitigation Incorporated.** There are four conditions associated with the Aquamarine Solar Project that have the potential to release hazardous materials into the environment. These include: 1) Hydraulic irrigation pumps and 55-gallon drums; 2) accidental rupture of the natural gas transmission pipeline that runs through the project site; 3) accidental release of hazardous materials from solar panels, and; 4) exposure to valley fever. These conditions are discussed in turn below.

**Hydraulic Irrigation Pumps and 55-Gallon Drums**

The two active irrigation wells on the project site are accompanied by hydraulic pumps and 35-gallon drums of hydraulic oil. The hydraulic pump located in the eastern portion of the site appears to be leaking. Staining was observed by MTA on the ground surrounding the drums of hydraulic oil and the hydraulic pumps. Any spilled hydraulic oil that may remain in the soil in hazardous concentrations could be mobilized by ground disturbing activities, and this would present a health hazard to construction workers during installation of the solar facilities. This would represent a potentially significant impact. With implementation of Mitigation Measure HAZ-2 below, the impact would be reduced to less than significant.

**Mitigation Measure HAZ-2: Conduct Soil Sampling and Remediation as Applicable.** Prior to initiation of ground disturbing activities, soil samples shall be taken from areas of potential contamination and tested for hazard levels of constituents of concern, in accordance with work plans prepared by qualified professionals. Any soils that exceed regulatory limits for hazardous materials shall be removed or otherwise remediated prior to any ground disturbing activity, to the satisfaction of the responsible regulatory agencies in accordance with applicable laws and regulations.

**Natural Gas Pipeline**

An underground natural gas transmission pipeline, owned and operated by Southern California Gas Company (SoCalGas), runs diagonally in a 1.3-mile segment through the northwest portion of the site. The 20-inch high pressure gas pipeline lies within a 30-foot wide easement that runs parallel to Avenal Cutoff Road about one-half mile southeast of the roadway. The Aquamarine project has been designed to avoid placement of solar arrays or equipment within the pipeline easement, although internal gravel driveways will cross over the pipeline easement as is permitted (see Figure 4b – Site Plan). In addition, a spur gas line branches off the transmission pipeline and heads eastward along the south side of Laurel Avenue to the community of Stratford. One or more project entry drives would cross this spur gas line to provide access to the southern portions of the Aquamarine Solar Project.

Since work associated with the internal driveways and entry driveways would occur within the gas pipeline easements, any such work would be subject to the applicable provisions of the California Government Code, which set forth detailed procedures to be followed for the protection of underground infrastructure, and specifies substantial financial penalties for failure to comply...
This law requires that an excavator must contact a regional notification center (e.g., Underground Service Alert [USA]) at least two days prior to excavation near any subsurface installation. The existing SoCalGas warning markers along the pipeline alignment indicate only the general location of the pipeline. The USA is then required to notify the utilities that may have buried lines within 1,000 feet of the planned excavation. Representatives of the utility are required to field mark the specific location of their facilities within the planned work area before excavation can commence. Since a high pressure natural gas pipeline is deemed a “high priority subsurface installation” under Government Code Section 4216, the excavator and pipeline operator are required to conduct an on-site meeting to determine actions required to verify the location of the pipeline. If the planned excavation is to occur within two feet of the field marked pipeline location, the exact location of the subsurface pipeline shall be determined by excavation with hand tools only prior to using power-driven excavation equipment in the pipeline vicinity. In addition, a SoCalGas transmission crew will stand by during construction activity (SoCalGas 2018). With the implementation of legally required safety measures in conjunction with work near the natural gas transmission pipeline, the potential hazards associated with the pipeline would be less-than-significant.

**Hazardous Materials in Solar Panels**

There are two dominant semiconducting materials used in photovoltaic technology including: crystalline silicon (c-si) which is the conventional material used in flat plate panels, and; thin-film semiconductors such as amorphous silicon (a-si) and cadmium telluride (CdTe). The silicon based solar cells do not contain hazardous materials, but CdTe is a hazardous substance when not imbedded within a PV module. (Cadmium compounds are classified by US EPA as a probable human carcinogen (US EPA 2016)). Although not currently planned, it is possible that the Aquamarine Solar Project could include thin film modules with CdTe. At present, CdTe is only contained in modules manufactured by First Solar Inc.

During the manufacturing process, the CdTe semiconductor layer is sealed between two sheets of glass. CdTe contained within PV modules is highly stable and no emissions of any kind are generated when PV modules are used under normal conditions (Fthenakis 2003). The primary manufacturer and operator of solar facilities with CdTe PV modules, First Solar, has a program for recycling modules at the end of their 25-year life cycle. During the recycling and refining process, up to 90 percent of the semiconductor material is recovered for reuse in new modules (First Solar 2018).

In summary, the potential for emissions of CdTe is negligible during normal use of CdTe PV modules. Recycling of CdTe modules is preferable to disposal at a landfill, from a waste reduction and materials recovery standpoint, and a manufacturer’s program is in place to accept used CdTe PV modules. However, since the evidence indicates there is a negligible human health risk associated with CdTe modules, mandatory recycling of these modules is not required.

In conclusion, the potential use of CdTe PV modules at the Aquamarine Solar Project would not result in a significant risk of a release of hazardous materials that would be harmful to human health or the environment. Therefore, the potential for health hazard due to CdTe PV panels would be represent a less-than-significant impact.
Valley Fever

The project site is located in an area that may harbor the fungus that causes Valley Fever (or *coccidioidomycosis*), a lung disease common in the southwestern United States. Valley Fever is caused by the fungus *Coccidioides immitis*, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. The fungus is prevalent in the soils of the San Joaquin Valley, including Kings County, where the average annual exposure rates are more than 100 in 100,000 people (CDPH 2019). The fungal spores become airborne when the soil is disturbed by winds, construction, farming, or other activities. Most people who inhale the spores do not get sick. Usually, susceptible individuals experience flu-like symptoms and will feel better on their own within weeks, although some people require antifungal medication (CDC 2019). There is an increased risk of exposure to people working in construction and agriculture due to their proximity to potential release of airborne spores.

The fungal spores that cause Valley Fever are most prevalent in undisturbed soils. Since the land in Kings County consists predominantly of disturbed agricultural land, the risk of infection due to developments on agricultural land is considered low (Kings County 2009b). However, the fungal spores are too small to be seen and it is unknown if the soils of the project site contain Valley Fever spores. As such, there is a potential for on-site workers to become infected. The potential for airborne release of Valley Fever spores would be greatest during construction and decommissioning when soils are temporarily exposed and disturbed by grading and excavation activity. The health risk to workers from potential exposure to valley fever represents a potentially significant impact. In order to reduce the potential health impacts from Valley Fever to less-than-significant levels, the following mitigation measures shall be implemented in conjunction with the project.

**Mitigation Measure HAZ-3: Preventing Valley Fever Exposure.** In order to protect the public and workers from Valley Fever, the following measures shall be implemented during project construction and decommissioning:

- Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.

- Provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication “Preventing Work-Related Coccidioidomycosis (Valley Fever),” available at http://www.cdph.ca.gov/programs/hesive/Documents/CocciFact.pdf.

The implementation of these measures in conjunction with project construction and decommissioning would minimize the risk of exposure of workers at the site to Valley Fever. Therefore, the potential hazard to the public from potential exposure to Valley Fever would be reduced to less-than-significant levels.

Residual Agricultural Chemicals

**Organochlorine Pesticides from Past Agricultural Practices**

In the past, agricultural practices commonly included the application of environmentally persistent pesticides such as DDT, Aldrin, dieldrin, and mirex. Collectively known as organochlorine pesticides (OCPs), these compounds were found to be toxic and bioaccumulative, and were banned from use,
beginning in 1974 for DDT, and quickly thereafter for other OCPs in California. Due to the environmental persistence of these compounds, residual concentrations may still be present in the soils where they were applied. For example, the half-life of DDT in soil is 2-15 years depending on local climate conditions, while most other OCPs (and POPs – Persistent Organic Pesticides, like Toxaphene) have half-lives of up to 12 years. Thus, a compound with a 15-year half-life would be 50 percent degraded after 15 years, and 75 percent degraded after 30 years and so on. Assuming DDT was applied on a site, and that the last application was in 1974, and also assuming the high end of the range for its half-life (i.e., 15 years), the concentration of DDT would have degraded to less than 15 percent of its original strength by 2019.

While there is some potential for these “legacy pesticides” to be present on agricultural lands in hazardous concentrations, it is considered more likely that high concentrations would be found in areas where the chemicals were loaded, stored, or mixed. Incidences of such contamination are associated with the “hot spots” resulting from occasional spillage at chemical storage sites and have not been found to be associated with areas where the chemicals were merely broadcast over the crops. Thus, unless chemical mixing has occurred, there is typically a low potential for environmentally persistent pesticides/herbicides related to crop cultivation to exist in the near-surface soils at concentrations which would require regulatory action.

It is unknown whether OCPs or POPs were applied at the site before they were banned in the 1970s. If they were applied, there is a low likelihood that the soils are contaminated, particularly since there no evidence that mixing of agricultural chemicals occurred on the Aquamarine project site in the past. The project site is part of a much larger agricultural operation, and has not historically been used for mixing or loading of pesticides, which has been conducted off the project site. Thus it is highly unlikely that legacy pesticides like DDT would be present on the project site in hazardous concentrations. In order to determine if the soil on the project site contains any significant concentrations of environmentally persistent agricultural chemicals, a Phase II program of soil sampling and testing was performed by Moore Twining Associates (MTA) in November 2018. The analytical results indicated that the soils are well below regulatory screening levels for organochlorine pesticides, as well as Toxaphene and the metal Arsenic. The MTA report stated that no further action is necessary with regard to residual agricultural chemicals on the project site (MTA 2018b). Therefore, the potential impact due to exposure to residual agricultural chemicals is less than significant.

Recent Use of Agricultural Chemicals

The pesticides applied at the Aquamarine site in the recent past consist of non-persistent compounds that degrade rapidly (within a few days or weeks) after application. The longest-lived pesticides applied at the site include paraquat and glyphosphate (Roundup), which have half-lives of approximately 1,000 days and 100 days, respectively (UCD 2014). As such, any pesticide concentrations at the site from the applications in years prior to project development would degrade to non-detectable levels by the time of site development for all pesticides except paraquat. The Department of Toxic Substances Control (DTSC) does not recommend sampling for currently permitted pesticides since they have relatively short half-lives. While paraquat does have a longer half-life in soil, it has not been detected or rarely detected at trace levels at sites which DTSC has had oversight; therefore, routine analysis for paraquat is not required for field areas. Analysis for paraquat may be required in storage and mixing/loading areas (DTSC 2008). There is no evidence that mixing or loading of paraquat or other pesticides has been conducted on the project site. Given
these facts, and based on DTSC’s guidance and experience, it is reasonable to conclude that hazardous concentrations of paraquat are not present at the site.

It is also noted that the routine application of registered pesticides is not a Recognized Environmental Condition (REC) by the American Society for Testing and Materials (ASTM) if applied according to the labeling instructions (Lavey 2014).

Based on the information and analysis presented above, it is concluded that residual agricultural pesticides are not present on the Aquamarine project site in hazardous concentrations. Therefore, the potential hazard to the public and workers from exposure to residual agricultural chemicals at the Aquamarine project site represents a less-than-significant impact.

**Gen-Tie Line**

Depending on the final location of the disturbance areas for monopole installation and other construction-related activity, there is a potential for agricultural well sites to be located nearby which may have been subject to spills of hydraulic oil. As discussed in connection with Aquamarine Solar Project above, any spilled hydraulic oil, or other hazardous material, that may remain in the soil in hazardous concentrations could be mobilized by ground disturbing activities, and this would present a health hazard to construction workers during installation of the solar facilities. This would represent a potentially significant impact. With implementation of Mitigation Measure HAZ-2 (“Conduct Soil Sampling and Remediation, as Applicable”), as set forth above, the impact would be reduced to less than significant.

The construction of the Gen-Tie Line would involve ground disturbance associated with site clearance, grading, and excavation for transmission towers, access driveways, pulling sites, and construction staging areas. The total area of temporary ground disturbance for the Gen-Tie Line would be approximately 125 acres in Kings County. As discussed above for Aquamarine Solar Project, it is unlikely that environmentally persistent pesticides are present in the soils in hazardous concentrations. As such the potential impact due to exposure of residual agricultural chemicals would less than significant.

The construction of the Gen-Tie Line would result in the temporary disturbance of approximately 125 acres in Kings County, with the potential for release of Valley Fever fungal spores that may be present in the soils. Construction workers who have not developed immunity to Valley Fever through previous exposure would be at risk of infection and serious illness. The health risk to gen-tie construction workers from potential exposure to Valley Fever represents a potentially significant impact. With implementation of Mitigation Measure HAZ-3, as set forth above, the impact would be reduced to less than significant.

c) **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** There are no schools within one-quarter mile of the Aquamarine project site or the Gen-Tie corridor. The nearest schools are located in: Stratford, 4.5 miles east; NAS Lemoore, 3 miles...
northeast; Huron, 10 miles west; and Kettleman City, 14 miles south. The Aquamarine Solar Project and Gen-Tie Line would result in no hazardous materials impacts to schools in the vicinity.

d) Would the project 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?

Aquamarine Solar Project and Gen-Tie Line

No Impact. There are no hazardous materials sites on the Aquamarine project site or the Gen-Tie corridor or surrounding properties listed on the Department of Toxic Substances Control’s (DTSC’s) Hazardous Waste and Substances Site List (Cortese List) compiled pursuant to Government Code Section 65962.5 (DTSC 2018). A comprehensive search of all federal, state, and local database information systems likewise indicated no listed hazardous materials sites. A review of files for the Aquamarine project site and adjacent properties at the Kings County Environmental Health Department (KCEHD), and State Water Resources Control Board (SWRCB) likewise identified no documentation for the project site or adjacent properties (MTA 2018a). As such, there is no impact associated with the project in this regard.

e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

[Note: The subject of excessive noise relative to public airports is addressed in section 4.13 Noise, item ‘c’.

Aquamarine Solar Project

Less-than-Significant Impact. The Aquamarine project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest public or public use airports include the Hanford, Corcoran, and Coalinga municipal airports, and the Harris Ranch airfield, all of which are located 17 miles or more from the project site. The airfield at Naval Air Station Lemoore (NASL) is located 6.0 miles north of the Aquamarine project site. While the project site is not within an ‘airport land use plan,’ it is included in the Military Influence Area of Naval Air Station Lemoore (NASL), and is within the study area of the NAS Lemoore Joint Land Use Study (JLUS). The JLUS has no jurisdictional effect on the project but includes relevant information regarding potential safety hazards posed by NASL operations upon the project. The project site is located 3.5 miles south of the nearest accident potential zone mapped for NASL. The project site lies within an NASL flight approach/departure zone which has a height restriction of 500 feet above ground level, as regulated by the Federal Aviation Administration (JLUSPC 2011). The tallest structures within the project would consist of structural elements associated with the on-site substation that would be as high as 40 feet, and monopoles in the northern segment of the Gen-Tie Line where it enters the southern portion of the Aquamarine site, which would be 100 feet tall. Most project structures would consist of solar arrays, inverter pads, and meteorological stations that would be less than 8 feet high. Thus the tallest project features would be well within the 500-foot height limit for physical obstructions within the applicable NASL approach/departure zone.
Given the proximity of NAS Lemoore to the Aquamarine project site, there is a potential concern with the effect of glare on flight operations originating from the base. All of the solar panels installed at the project will be composed of photovoltaic cells. Solar PV employs glass panels that are designed to maximize absorption and minimize reflection to increase electricity production efficiency. To limit reflection, solar PV panels are constructed of dark, light-absorbing materials, and are given an anti-reflective coating or textured surface which can reduce reflectivity to less than 4 percent of incoming sunlight (EE Times 2012). In comparison, the reflectivity of standard glass is over 20 percent. By contrast, concentrating solar thermal systems, which employ arrays of highly polished mirrors to refocus the radiation on a receiver tube or tower, reflect about 90 percent of the incoming sunlight (FAA 2010).

The NAS Lemoore Joint Land Use Study (JLUS) addresses concerns with aviation hazards from reflection and glare. Solar facilities are mentioned specifically for their potential to produce reflective surfaces, but the JLUS acknowledged that the main concern was with highly reflective mirrors used in concentrating solar thermal facilities. The JLUS acknowledges that “if there is no central collection tower, the new solar panels can be made non-reflective and arrays could be installed to not cause any height or reflective issues” (JLUSPC 2011). Several PV solar facilities have been installed within military air bases elsewhere the U.S. without adversely affecting flight operations.

It is noted that a glint and glare study using the Sandia Laboratory’s Solar Glare Analysis Tool (SGHAT) was prepared for the adjacent Mustang Two Solar Project MND in August 2016. In the analysis, impacts from solar glare were given three ranks: potential for permanent eye damage; potential for temporary after-image (a lingering image of the glare in the field of view); and low potential for temporary after-image. Results from the analysis indicated that pilots flying over and near the solar facility would experience a low potential for a temporary after-image, and the potential would be limited to early morning from approximately April through September. The low potential for temporary after-image level is generally considered to be safe for pilots (Kings County 2017). The results of this glint and glare analysis are considered to be applicable to the Aquamarine Solar Project, which is directly adjacent to the Mustang Two Solar Project site. Therefore, it is concluded that the PV solar panels installed at the Aquamarine project site would not produce light or glare that would pose a hazard to flight operations at NAS Lemoore.

Additionally, the employment density at the Aquamarine Solar Project would be very low. No staff would be permanently stationed at the site, with one or two staff visiting the site regularly, and with up 10 staff present when panel cleaning and maintenance activities are in progress. Therefore, the Aquamarine Solar Project would not result in a significant safety hazard to on-site employees due to the proximity of public airports or public use airports. As such, the potential for the project to be adversely affected by aviation hazards is less than significant.

**Gen-Tie Line**

The nearest municipal airports to the Kings County segments of Gen-Tie Line include the Hanford, Corcoran, and Coalinga airports, all of which are located between 15 and 20 miles from the Gen-Tie corridor at their nearest points. In addition, the airfield at NAS Lemoore is located 10 miles from the Gen-Tie corridor. There are no clear zones or safety zones identified in the NASL Joint Land Use Study that extend south of SR-198, and the Gen-Tie Line is entirely outside the NASL height restriction zones. The Gen-Tie Line is also entirely outside the 3-mile buffer zone for NASL, and no
portion of the Gen-Tie Line is crossed by a mapped flight track for aircraft operations (JLUS 2011). The Gen-Tie Line would not include reflective surfaces that could produce glare and thus would not pose a potential safety hazard to aviation in this regard. In summary, the Gen-Tie Line is too far from the nearest municipal airports and the NASL airfield to disrupt or interfere with flight operations. Therefore, the impact of the Gen-Tie Line upon flight operations associated with public or public use airports, as well as NAS Lemoore, would be less-than-significant.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. In times of emergency or disaster response, the State highways would serve as primary routes, and designated County arterial roadways in the area would serve as secondary routes. In the project vicinity, the primary routes would include SR-198, SR-41, SR-269, and I-5, and the secondary routes would consist of Avenal Cutoff Road and Laurel Avenue (Kings County 2010e). These nearby highways and County roads provide several alternative escape routes with relatively low ambient traffic volumes. The Aquamarine Solar Project and Gen-Tie Line would not result in changes to the adjacent roadway network, and the small operational workforce would not create or increase traffic congestion during times of emergency or disaster. During the construction phase, slow moving vehicles or delivery of large pieces of equipment or components could result in temporary traffic slowdowns, although such conditions would be infrequent and would be managed pursuant to traffic controls specified in Mitigation Measure TR-1 (see section 4.17 Transportation). The Aquamarine Solar Project and Gen-Tie Line would not impair implementation of, or physically interfere with, an adopted emergency response plan or an emergency evacuation plan, and therefore the potential impact in this regard would be less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. The Aquamarine Solar Project and Gen-Tie Line are not located within or near a wildland fire hazard area. The Fire Hazard Severity Zone (FHSZ) map for Kings County prepared by the California Department of Forestry and Fire Protection (CalFire) shows the project site as “unzoned” for fire hazard. The nearest areas zoned on the FHSZ map are located in the foothills along Interstate 5 to the southwest of the project area, which are zoned “Moderate Severity Fire Hazard” (CalFire 2007b). The Health and Safety Element of the Kings County General Plan includes a map of Potential Fire Hazards which shows project area as being subject to “little or no threat” (Kings County 2010e). Therefore, the risk of wildland fire at the Aquamarine Solar Project and Gen-Tie Line is less than significant.
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Chapter 4 – Evaluation of Environmental Impacts

4.9 – Hazards and Hazardous Materials

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Lavey 2014  

MTA 2018a  
Moore Twining Associates (MTA). 2018. Phase I Environmental Site Assessment – Aquamarine Solar Project; 25th Avenue and Laurel Avenue, Unincorporated Area of Kings County, California. November. [Contained in Appendix F1 of this document.]

MTA 2018b  

SoCalGas 2018  

UCD 2014  
University of California-Davis (UCD) et al. 2014. *Extoxnet – Pesticide Information Profiles (PIPs).* Accessible at [http://extoxnet.orst.edu/pips/ghindex.html](http://extoxnet.orst.edu/pips/ghindex.html)

US EPA 2016  
### 4.10 HYDROLOGY AND WATER QUALITY

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Uns</th>
<th>Less Than Significant</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?</td>
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<td>b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impact sustainable groundwater management of the basin?</td>
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<td>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:</td>
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<td>i. result in substantial erosion or siltation on- or off-site;</td>
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<td>ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;</td>
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<td>iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or</td>
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<td>iv. impede or redirect flood flows?</td>
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<td>d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</td>
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<td>e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</td>
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### Setting

A comprehensive description of the hydrological setting and regulatory context of the Aquamarine Solar Project and Gen-Tie Line area is provided in the Draft PEIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which is incorporated into this document by reference PEIR pursuant to Section 15150 of the State CEQA Guidelines. The description of the overall hydrological setting is found on pages 3.2-1 through 3.2-20 of the Draft PEIR (WWD 2017b). A description of the specific conditions relevant to the Aquamarine Solar Project site and Gen-Tie corridor is provided below.

Runoff from the Sierra Nevada is carried in creeks, rivers and sloughs as far west as the Kings River which flows in a southerly direction to the Tulare Dry Lakebed, passing through the project vicinity approximately 2 miles to the east of the Aquamarine site. The drainage courses originating in the Coast Ranges to the west dissipate west of the California Aqueduct, approximately 7 miles west of the Aquamarine project site and 3 miles west of the Gen-Tie corridor. The project area is virtually level and has no natural drainage features. Rainfall occurring in the project area is absorbed by the soil and crop cover.
Aquamarine Solar Project

The Aquamarine project site is served by a series of interconnected irrigation canals and ditches. The irrigation canals convey and distribute surface water and pumped well water throughout the area. There are two major canals that pass through the project site, including: an irrigation canal that runs in a north-south direction adjacent to the 25th Avenue alignment, and; a canal that runs in an east-west direction along the south side of Laurel Avenue. A major drainage ditch runs along Avenal Cutoff Road on the project’s northwest boundary. There are also smaller canals and ditches in the southwest portion of the project site.

There are two active agricultural wells within the Aquamarine site. One well is located on the west boundary of the project site, south of Avenal Cutoff Road, and another well is located at the far eastern project boundary on the south side of Laurel Avenue.

Gen-Tie Line

The lands traversed by the Gen-Tie Line in Kings County are very similar in character those of the Aquamarine site. The terrain is virtually level with no natural drainage features, and with a few canals and ditches in the vicinity of its eastern-most segments.

Environmental Evaluation

a) Would the project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?

Water Quality Standards and Waste Discharge Requirements

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact. Water quality standards can refer to drinking water standards or surface water standards. Further, there are separate surface water standards for discharges from wastewater treatment plants and for discharges of stormwater. These are discussed in turn below.

Drinking Water Standards - No Impact: Drinking water standards are implemented by the State Water Resources Control Board, and apply to local water distribution systems for domestic water supply. There are no plans to install a domestic water distribution as part of the Aquamarine Solar Project or Gen-Tie Line. Since drinking water for construction and operational staff would be provided by bottled water delivered by truck, the drinking water standards would be applicable at the water bottling plant. (See section 4.19. Utilities and Services for a detailed discussion of water supply.)

Wastewater Treatment Standards – Less-than-Significant Impact: Waste Discharge Requirements generally refers to standards applied to local wastewater treatment facilities by the Regional Water Quality Control Board for quantities and quality of wastewater discharge. Individual septic systems are regulated under the Kings County Plumbing Code, which sets forth design criteria and standards for their installation. Since the Aquamarine project site is located
in an area with a perched water table, it is designated by Kings County as an area requiring engineered septic systems. As such, the septic and leachfield system at the Aquamarine project will be designed and constructed as specified by a qualified registered professional engineer, and subject to approval of the Kings County Building Official, which would ensure effective functioning of the septic and leachfield system and avoid impacts to groundwater quality. The Gen-Tie Line would not require permanent wastewater facilities. During construction of both the Aquamarine project and Gen-Tie line, sanitary needs will be provided by portable chemical toilets that will be serviced by an outside contractor as needed. Therefore, the Aquamarine project and Gen-Tie line will meet waste discharge requirements and the impact would be less than significant.

Stormwater Standards – No Impact: The Central Valley Regional Water Quality Control Board has not established numeric standards for surface water runoff quality; therefore, no surface water quality standards apply to the Aquamarine Solar Project or Gen-Tie Line. (See following paragraphs for a detailed discussion of surface and groundwater quality.)

**Substantially degrade surface or ground water quality?**

**Aquamarine Solar Project**

**Less-than-Significant Impact with Mitigation Incorporated.** During the construction and decommissioning phases, there is a potential for discharges of hazardous materials that could adversely affect the quality of surface water or groundwater. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination of stormwater. Staging areas and building sites can be the source of pollution due to paints, solvents, cleaning agents, and metals contained in the surface of equipment and materials. Gross pollutants such as trash, debris, and organic matter are additional potential pollutants associated with the construction and decommissioning phases of the Aquamarine project. The potential for discharges of hazardous materials to degrade water quality during the construction and decommissioning phases of the project represents a potentially significant impact.

The potential water quality impacts resulting from discharges of hazardous materials during construction and decommissioning would be reduced to less-than-significant levels through implementation of Mitigation Measure HYD-1: Stormwater Quality Protection, as set forth in item ‘c’ below.

Under Mitigation Measure HYD-1, the measures to prevent hazardous contamination during the construction and decommissioning phases will be specified in the Storm Water Pollution Prevention Plans (SWPPPs) required to be implemented under the mitigation measure. The project SWPPPs will include construction and decommissioning phase housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The SWPPPs would also include housekeeping measures to be followed during project operations.

With the implementation of Mitigation Measure HYD-1, particularly the hazardous materials provisions of the required SWPPPs, the potential for impacts to surface and groundwater quality from hazardous materials releases during project construction, operation, and decommissioning of the Aquamarine Solar Project would be less than significant.
Gen-Tie Line

During construction of the Gen-Tie Line, there is a potential for discharges of hazardous materials, as discussed above for the Aquamarine Solar project, which could adversely affect the quality of surface water or groundwater. The potential discharges of hazardous materials during construction and operation of the Gen-Tie Line could result in a potentially significant impact to water quality. With implementation of Mitigation Measure HYD-1, the impact would be reduced to a less than significant level.

b) **Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impact sustainable groundwater management of the basin?**

Aquamarine Solar Facility

**Less-than-Significant Impact.** The Aquamarine Solar Project would require water supplies during both the construction and operational phases, as discussed in turn below.

**Project Construction**

During the grading and construction phases, water would be regularly applied to exposed soils and internal access driveways for dust suppression. During earthwork, water would also be required in soil conditioning for optimum moisture content. As discussed in the section 2.2. Project Description, it is estimated that the 250 MW SGF will require a total of 365 acre-feet of water during its 2-year construction period. It is anticipated that water for SGF construction will be obtained from the existing agricultural well on the western boundary of the project site.

Current groundwater pumping in the area varies substantially from year to year depending on availability of surface water deliveries of Central Valley Project (CVP) water delivered through the Westlands Water District (WWD). During years when WWD receives most of its CVP water allocation, groundwater provides a minor portion of irrigation requirements. During years of severe drought, like 2013 through 2016, groundwater pumping increases substantially to make up for shortfalls of surface water deliveries. Based on the Water Supply Assessment (WSA) prepared for this MND, it is estimated that the “safe yield” of the groundwater resource, or the average volume of groundwater that can be pumped annually within the WWD service area without lowering groundwater levels over the long term, is in the range of 135,000 to 200,000 acre-feet. This is equivalent to approximately 0.24 to 0.35 acre-feet per year per acre over the 568,000 irrigable acres within WWD’s service area (WRP 2019).

The Aquamarine Solar Project will be constructed over a two year period, resulting in water demand of 182.5 acre-feet per year (afy), or 0.1 afy/acre. This volume of groundwater pumping is well below the 0.24 to 0.35 acre-feet “safe yield” or the average annual pumping volume that can occur without lowering groundwater levels. Therefore, the groundwater pumped during project construction would not substantially decrease groundwater supplies or contribute to the lowering of the local groundwater table level.
Project Operation

During project operation, non-potable water will be required for activities such as panel cleaning, watering sheep, washing or rinsing equipment, and other operational uses. As described in section 2.2 Project Description, the combined water usage from all operational activities is estimated to total 32.01 acre-feet annually over the 1,825-acre project site.

Operational supplies will be provided by Westlands Water District (WWD) through its existing system of lateral pipelines for conveyance of imported surface water. Under the WWD’s Municipal and Industrial (M&I) Regulations, an applicant may apply for and receive up to 5 acre-feet for water for M&I use. The District has estimated that solar development requires 3-5 acre-feet per year per 160 acres. In order to provide for solar projects greater than 160-acres in size, the WWD has established an exception to the M&I limit whereby solar development would be eligible to receive up to 5 acre-feet per year for each 160 acres developed. The estimated 32.01 acre-feet per year of operational water consumption for the project is equivalent to 2.81 acre-feet per quarter section (160 acres). Since this is well within the 5.0 acre-feet per year of imported surface water per quarter section that the project would be eligible to receive under WWD’s M&I rules, there will be no need to augment surface water supplies with groundwater for project operations.

Temporary periodic curtailment of surface water supplies to meet the project’s operational demands is not currently foreseen. However, in the unlikely event that such unforeseen curtailment may occur in the future, possibly in the event of a prolonged severe drought, the relatively small volumes of untreated water that would be required for project operations would likely be obtained from the existing groundwater well on the site. In the unlikely event that such backup groundwater supplies to the project were also to be curtailed at the same time, the relatively small volumes of untreated water required would be purchased from alternative sources and trucked to the site. (See section 4.19 Utilities and Service Systems for discussion.) The 32.01 acre-feet per year of operational demand water would be equivalent to 0.018 acre-feet per acre per year, or 0.5 to 0.8 percent of safe yield of the groundwater basin of 0.24 to 0.35 acre-feet per acre per year. This very low level of temporary demand for groundwater supplies would not decrease groundwater supplies or contribute to the lowering of the local groundwater table level.

The Aquamarine Solar Project would result in less than one percent increase in impervious surface coverage of the site at the dispersed equipment pads and small parking area. The solar panels themselves would be elevated above ground level with permeable vegetation covered soils beneath. Thus the solar arrays would not displace runoff, and rainwater falling from edges of the panels would spread to vegetated areas beneath the arrays and percolate into the ground. The minimal addition of impervious surfaces would not prevent rainfall from percolating into the underlying soils. The runoff from these surfaces would be displaced to immediately adjacent vegetated areas and would be readily absorbed into the ground. Therefore, project operation would not interfere with groundwater recharge at the project site.

Project Decommissioning

Untreated water would be required during decommissioning, although the volume of water required is expected to be less than required during the construction phase. Since vegetative cover would be maintained on the site during deconstruction, there would be relatively little exposed soil that would require watering for dust suppression. Similarly, water would not be required for soil conditioning during grading. The source of water during decommissioning is expected to be from the existing well.
on the western boundary of the site. The total groundwater pumped during decommissioning is expected to be substantially less than the estimated 365 acre-feet required during project construction. Even assuming that water demand during decommissioning would be same as during construction, this would represent an average volume of about 0.2 acre-feet per acre over the 1,825-acre project site, over the course of two years or less. Since the safe yield of the groundwater basin is approximately 0.24 to 0.35 acre-feet per acre per year, the project water demands during decommissioning would not result in overpumping or exceedance of the safe yield of the groundwater basin. In summary, the groundwater pumped during decommissioning would not decrease groundwater supplies or contribute to the lowering of the local groundwater table level.

In summary, the Aquamarine Solar Project would not decrease groundwater supplies or interfere substantially with groundwater recharge, and thus the impact of the Aquamarine Project on the sustainable groundwater management of the basin would be less than significant.

**Gen-Tie Line**

**Less-than-Significant Impact.** During construction of the Gen-Tie Line, water would be needed for dust suppression, cleaning, and in mixing of concrete for tower foundations. Non-potable water would be purchased from local water purveyors and hauled to each tower site, temporary access driveway, and staging area. The overall acreage subject to temporary disturbance would be relatively small (~125 acres) and would occur at isolated locations over the 8.7 miles of gen-tie corridor, or equivalent to approximately 14.4 acres of disturbed area per mile. Assuming overall water use would be similar to that of solar development, or 0.2 acre-feet per acre, the total water demand for gen-tie construction would be approximately 25 acre-feet. This would be equivalent to the irrigation requirements of about 10 acres of agricultural land for one year (assuming the average WWD water application rate of 2.5 afy per acre). If all of the water requirements for gen-tie construction were obtained from groundwater, this very small amount of groundwater pumping over the substantial length of the Gen-Tie Line would have a negligible effect on groundwater levels.

During operation of the Gen-Tie Line, very little water would be used in maintenance and repair activities. While the Gen-Tie Line would be constructed over the groundwater basin of the San Joaquin Valley, the total area of impervious surfaces resulting from the Gen-Tie Line would be very small (less than 1.0 acre), consisting mainly of concrete footings for the monopoles, which would not interfere with groundwater recharge.

In summary, the construction and operation of the Gen-Tie Line would require the use of relatively small volumes of water. While some or all of the water demand may be provided by groundwater, the volumes involved would be very small and would have a negligible effect on groundwater supplies. The Gen-Tie Line would result in a very small increase in impervious coverage, and would not interfere with groundwater recharge.

In summary, the Gen-Tie Line would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, and thus the impact of the Gen-Tie Line on the sustainable groundwater management of the basin would be less than significant.
c) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:**

i. **Result in substantial erosion or siltation on- or off-site?**

**Aquamarine Solar Facility**

**Less-than-Significant Impact with Mitigation Incorporated.** There are no natural drainage courses on the Aquamarine project site or in the vicinity, with the nearest natural water body being the Kings River located approximately 2 miles east. There are several irrigation canals and drainage ditches that run through or adjacent to the project site, including canals/ditches along Laurel Avenue, the 25th Avenue alignment, and the Avenal Cutoff Road frontage, as well as small ditches in the southeastern portion of the project site. The Aquamarine Solar Project includes no proposal to substantially modify the ground contours or surface drainage patterns on the site, or alter the existing irrigation canals and ditches that run through and adjacent to the project site.

The installation of the project solar facilities would involve site clearing, rough grading, soil compaction, establishment of temporary construction staging areas, trenching for solar arrays, and construction of internal access driveways. Since the existing site topography is virtually level, only minor grading would be required for the project. Ground preparation would include tilling and grading to smooth out existing agricultural furrows, followed by compaction with rollers. Finished grades would be designed to provide for positive site drainage. As discussed in the section 2.2 *Project Description*, site clearing and soil preparation would occur incrementally and would not take place until a given area is needed for the next construction phase, which typically would comprise the next solar block or array in a predetermined sequence. Vegetative cover would be retained as long as possible to minimize exposed soils and reduce potential for erosion and wind-blown dust. Once vegetation is removed, the exposed and disturbed soil would be susceptible to erosion from wind and rain. During the decommissioning phase, the soil on the project site would again be subject to exposure and disturbance resulting in potential erosion by water and wind, although existing vegetation would not be removed. Unless mitigated, the potential for erosion and siltation impacts would be potentially significant.

In order to mitigate the potential erosion and sedimentation impacts associated with project construction and decommissioning to less-than-significant levels, the following mitigation measure shall be implemented in conjunction with the Aquamarine Solar Project:

**Mitigation Measure HYD-1: Stormwater Quality Protection.** Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a “Notice of Intent” (NOI) with the SWRCB to comply with the General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP for each project phase shall be prepared by a licensed engineer and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during the construction and post-construction phases of solar development. The SWPPP(s) required for decommissioning shall specify BMPs to be implemented during that final project phase. The construction contracts for each project phase, and for the decommissioning phase, shall include the requirement to implement the BMPs in accordance with the SWPPPs. The SWPPPs will
specify such practices as: designation of restricted-entry zones, sediment tracking control measures (e.g., crushed stone or riffle metal plate at construction entrance), truck washdown areas, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, provision mulching for soil stabilization during construction, and provision for revegetation upon completion of construction within a given area. The SWPPPs will also prescribe treatment measures to trap sediment once it has been mobilized, such as straw bale barriers, straw mulching, fiber rolls and wattles, silt fencing, and siltation or sediment ponds. Upon completion of each solar block, the finished grades beneath and around the finished rows of solar panels will be revegetated with a native seed mix. The reestablished vegetated cover would stabilize the soils and minimize the potential for post-construction erosion. The SWPPPs are subject to approval by the Central Valley Regional Water Quality Control Board (CVRWQCB), which makes the final determination on which BMPs are required for the project. The construction contracts for each project phase, and for the decommissioning phase, will include the requirement to implement the BMPs in accordance with the SWPPPs, and proper implementation of the specified BMPs is subject to inspection by the Regional Board staff.

In summary, the implementation of Mitigation Measure HYD-1 in conjunction with the Aquamarine project would reduce the potential erosion and siltation impacts resulting from the project to less-than-significant levels.

**Gen-Tie Line**

Construction of the Gen-Tie Line would involve soil-disturbing activities such as leveling and excavation for tower footings and grading for the temporary access road. Although the potential for erosion and siltation is reduced in the Gen-Tie Line due to the flat terrain, the impact would be potentially significant unless mitigated. With implementation of Mitigation Measure HYD-1 above, the impact would be reduced to less-than-significant levels.

**ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** The Aquamarine Solar Project would result in less than one percent increase in impervious surface coverage of the site, which in turn would result in a negligible increase in localized runoff. The impervious surfaces created by the project would include the concrete pads for inverters and transformers, and the footings and pads for the on-site O&M building and substation, and the small paved parking area in the operations yard. The maintenance driveways of the project would be surfaced with permeable gravel to allow continued percolation of rainfall into the underlying soil. As shown in Table 1 in section 2.2 Project Description, the project would cover 0.06 percent of the site with impervious surfaces, leaving 99.94 percent of the site permeable for percolation of runoff, including over 92.2 percent in vegetative cover and 7.7 percent in permeable gravel driveways.

Since the impervious surfaces of the dispersed equipment pads and small parking area would not prevent percolation into previously permeable underlying soils, the slight volume of runoff from these facilities would be displaced to immediately adjacent vegetated areas where this very small
amount of runoff would be readily absorbed into the ground. The solar panels themselves would be elevated above ground level with permeable vegetation covered soils beneath. Thus the solar arrays would not displace runoff, and rainwater falling from edges of the panels would spread to vegetated areas beneath the arrays and percolate into the ground.

The terrain of the project site is virtually flat, with a maximum gradient of 0.3 percent across the site. Under current conditions, rainfall percolates into the soil with little or no runoff leaving the site. The Aquamarine Solar Project would result in no substantial modification of existing site grades. During normal rain events, runoff from impervious surfaces would be absorbed by the adjacent vegetated ground and percolate into the soil. During more intense or prolonged storm events, the ground would become saturated and relatively minor volumes of stormwater may temporarily pond on the surface and gradually percolate into the ground, as occurs under existing conditions. Due to the virtually level ground conditions, and the complete coverage of the site with pervious soils to absorb rainwater, the conditions that would allow for stormwater to be mobilized and concentrated in sustained runoff flows do not exist on the site under pre-project conditions. The very minor introduction of small areas of impervious surfaces distributed throughout the site would not have a discernable effect on drainage runoff patterns on the site, and would not result in flooding on or off the site.

In summary, the project’s minimal alteration of the virtually level site terrain, and the very minor project coverage of the site with impervious surfaces, would have no discernable effect on runoff patterns on the site. Therefore, drainage and flooding impacts associated with the Aquamarine Solar Project would be less than significant.

**Gen-Tie Line**

The gen-tie line would result in placement of very few permanent features on the ground surface. These features would consist primarily of concrete footings for monopoles, which would add a negligible amount of impervious surface area. The very small volume of additional runoff from these impervious surfaces would be readily absorbed into the ground adjacent to these features. There is no potential for gen-tie line to result in increased flood hazard. Therefore, the drainage and flooding impacts associated with the Gen-Tie Line would be less than significant.

**iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

**Aquamarine Solar Project**

*Less-than-Significant Impact.* As discussed in item ‘c.ii’ above, the addition of 0.06 percent impervious coverage at the Aquamarine project site would result in a negligible effect on runoff patterns at the site, and are unlikely to generate runoff flows that would leave the site. The irrigation canals that run through and adjacent to the site were designed and constructed to convey large volumes of irrigation water through the area. Under existing conditions, these canals capture incidental rainwater that falls on or immediately adjacent their banks. However, there is no existing system of drainage ditches that conveys water from agricultural fields to these canals. The Aquamarine Solar Project does not need an internal stormwater drainage system since rainfall...
would percolate directly into the ground at the site. Given that the impervious surfaces introduced by the project would be located in the site interior, away from the adjacent irrigation canals, there will be little if any additional runoff generated by the project at would incidentally enter these canals. Therefore, these canals would continue to have sufficient capacity to accept the negligible flows that might leave the project site during a major storm event.

With respect to the issue of polluted runoff, the project would not introduce substantial sources of stormwater pollutants, such as oil, grease, metals, and debris typically associated with stormwater pollution generated on urban streets and parking lots. The very minor leaks of oil or lubricants from maintenance vehicles and equipment used at the project would be mitigated through the implementation of Mitigation Measure HAZ-1 which would ensure that hazardous materials used in project construction and decommissioning are handled, stored, and disposed of in accordance with the HMBP and SWPPP required to be implemented in conjunction with the project, with oversight by the responsible agencies. Therefore, the impacts associated with the potential for additional sources of polluted runoff to be generated by the project would be less than significant.

In summary, the impact associated with the potential for the Aquamarine Solar Project to create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff would be less than significant.

Gen-Tie Line

The Gen-Tie Line would result in a very small amount of new impervious surface area at the dispersed monopole sites, and would not result increased runoff or flooding potential. The operation of the Gen-Tie Line would involve periodic inspection, maintenance, and repair activities which would involve travel to the tower sites by maintenance vehicles which could leak minor amounts of oil or lubricants. Since almost all of surrounding areas would consist of natural or cultivated pervious soil cover, the potential for the very small amounts of these pollutants to become entrained in stormwater runoff and be conveyed to downstream water bodies would be small. In addition, the Gen-Tie Line would be subject to the pollution control measures contained in the SWPPP for the project, which would also include measures that address hazardous materials employed during construction.

In summary, the impact associated with the potential for the Gen-Tie Line to create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff would be less than significant.

iv. Impede or redirect flood flows?

Aquamarine Solar Facility

No Impact. Neither the Aquamarine project site nor other lands in the project vicinity are located within the flood zones for the 100-year or 500-year events, as mapped by the Federal Emergency Management Agency (FEMA). FEMA’s Flood Insurance Rate Map (FIRM) covering the project site indicates that the project site is entirely located within Zone X, which applies to areas “[d]etermined to be outside the 0.2% annual chance (500-year) floodplain” (FEMA 2009a). The nearest location of the 100-year floodplain is approximately 1.5 miles east along the Kings River (FEMA 2009b).
The California Department of Water Resources (DWR) administers the Awareness Floodplain Mapping project, the purpose of which is to identify flood hazard areas for areas that are not mapped under FEMA’s National Flood Insurance Program (NFIP), and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. In DWR’s mapping, floodplains are shown simply as flood prone areas without specific depths and other flood hazard data. The nearest DWR flood zone is mapped as a long strip of land running parallel to and northeast of the California Aqueduct, which is located approximately 8 miles southwest of the Aquamarine project site at its nearest point (DWR 2018).

In summary, no portion of the project site is subject to flooding during the 100-year or 500-year events. Since the Aquamarine Solar Project is not subject to potential flooding hazard, the project would have no impact with respect to impeding or redirecting flood flows.

**Gen-Tie Line**

**No Impact.** No part of the Kings County portion of the gen-tie corridor is located in a FEMA-mapped flood zone for the 100-year or 500-year events. The nearest mapped 100-year flood zone is located in Fresno County 0.2 miles west of the west end of the Gen-Tie Line. The nearest mapped 500-year flood zone is located south of the City of Huron approximately 6 miles north of the Gen-Tie Line. The nearest DWR flood zone is mapped as a long strip of land running parallel and northeast of the California Aqueduct, which is located approximately 2 miles southwest of the Gen-Tie Line at its nearest point (DWR 2018).

In summary, no part of the Kings County portion of the Gen-Tie corridor is subject to flooding during the 100-year or 500-year events. Since the Gen-Tie Line is not subject to potential flooding hazard, it would have no impact with respect to impeding or redirecting flood flows.

d) **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

**Aquamarine Solar Facility and Gen-Tie Line**

**No Impact.** Within the San Joaquin Valley, there are substantial areas that are subject to inundation flooding in the event of a dam failure at a reservoir in the region. Portions of Kings County located to the east and northeast of the Aquamarine project site and Gen-Tie corridor are subject to potential inundation in the event of the failure of dams located in the Sierra Nevada. The Pine Flat Dam, located upstream on the Kings River, and the Terminus Dam on the Kaweah River, are the only dams in the region which, if breached, might cause flooding of significance within the affected areas. (The mapped inundation areas are shown on Figure HS-7 in the Health and Safety Element of the 2035 Kings County General Plan.) The failure of the Pine Flat Dam would result in a potential inundation area that could extend to within approximately 1.0 miles east of the Aquamarine project site and 1.5 miles east of the Gen-Tie corridor, with the western edge of the inundation zone generally corresponding to the west side of the Kings River 100-year flood zone (Kings County 2010e).
A failure of the Terminus Dam on the Kaweah River could inundate an area extending as far southwest as Kansas and 10th Avenues to the south of the City of Hanford, approximately 13 miles east of the Aquamarine project site and 15 miles east of the Gen-Tie corridor (Kings County 2010e). In summary, the neither the Aquamarine project site nor the Gen-Tie corridor is located within the mapped inundation zones for any of the reservoirs in the region, and therefore would not be subject to risk of flooding in the unlikely event of dam failure. There are no other impoundments or diked areas nearby, and therefore the project area would not be subject to risk of flooding due to levee failure.

With respect to tsunamis, neither the Aquamarine project site nor the Gen-Tie corridor would be subject to inundation from potential tsunamis generated in the Pacific Ocean due to their inland location more than 75 miles from the coast, and given their elevations at over 200 feet above sea mean level.

Seiches are seismically-induced waves in an enclosed body of water such as a lake or reservoir. Severe seismic shaking can cause impounded water to spill beyond the banks and inundate surrounding lands. There are no open bodies of water in the project vicinity with the exception of the wastewater settling ponds for NAS Lemoore, which are located 2.2 miles north of the Aquamarine project site, and 4.4 miles north of the Gen-Tie corridor. These ponds are relatively shallow, and in the unlikely event of seismic shaking severe enough to result in overspill, the spilled water would flow down-gradient toward the Kings River to the east. The Aquamarine project site and Gen-Tie corridor are located up-gradient and are topographically higher than the settling ponds, so there is little or no potential that spilled water from the ponds would reach the Aquamarine project or Gen-Tie corridor.

In summary, the Aquamarine Solar Project and Gen-Tie Line would not be subject to flooding due to dam failure, tsunami, or seiche, and thus would not be at risk of release of pollutants from such potential inundation. Thus there would be no impact in terms of hazards associated with such events.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Aquamarine project site and Gen-Tie corridor are located within the Tulare Lake Hydrologic Basin Planning Area, for which the Basin Plan was revised most recently in July 2016. As noted above, the projects would be required to adhere to NPDES storm water runoff control requirements during construction and operation. The Aquamarine Solar Project and Gen-Tie Line would not include any other waste discharges that could conflict with the Basin Plan.

The Sustainable Groundwater Management Act (SGMA), passed in 2014, requires that all medium to critically over drafted subbasins identified by DWR be managed by a groundwater sustainability agency (GSA). The GSA is responsible for locally managing the groundwater subbasin through the development and implementation a Groundwater Sustainability Plan (GSP). Medium and high priority groundwater subbasins are required to submit their GSP by 2022 and critically overdrafted subbasin are required to submit their GSP by 2020. As the primary water purveyor and local agency overlying the Westside Subbasin, Westlands Water District is the designated GSA for the subbasin. DWR designated the Westside Subbasin as a critically overdrafted basin which requires WWD to
prepare a Groundwater Sustainability Plan by January 31, 2020. There is currently no sustainable groundwater management plan in effect which covers the project area. (However, as discussed under item ‘b’ above, the volumes of water required for construction and operation of the Aquamarine Solar Project and Gen-Tie Line would be less than the currently estimated safe yield of the groundwater basin of 0.24 to 0.35 acre-feet per acre.) Thus the Aquamarine Solar Project and Gen-Tie Line would not conflict with a groundwater management plan.

In summary, the Aquamarine Solar Project and Gen-Tie Line would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and thus would have no impact in this regard.

REFERENCES – HYDROLOGY AND WATER QUALITY


FEMA 2009a Federal Emergency Management Agency (FEMA), National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Kings County, California and Incorporated Areas, Panel 300 of 875, Map No. 06031/C0300C, Effective Date: June 16, 2009. Available at https://msc.fema.gov/portal/search

FEMA 2009b Federal Emergency Management Agency (FEMA), National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Kings County, California and Incorporated Areas, Panel 325 of 875, Map No. 06031C0325C, Effective Date: June 16, 2009. Available at https://msc.fema.gov/portal/search


4.10 – Hydrology and Water Quality

**WWD 2017c**  

**WWD 2018**  
4.11 LAND USE AND PLANNING

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Physically divide an established community?</td>
<td>☐</td>
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<tr>
<td>b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?</td>
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Setting

Aquamarine Solar Facility and Gen-Tie Line

Existing Land Use

The Aquamarine project site consists of agricultural fields with related features such as irrigation canals, ditches, pipelines, standpipes, power lines, agricultural wells and pump stations, and unimproved agricultural roads. In recent years, the site has typically been cultivated for winter wheat during the wet season and left fallow during the dry season.

The lands surrounding the Aquamarine project site consist mainly of agricultural lands along with related irrigation canals, ditches, and unimproved farm roads (see Figures 2 and 3). The completed Westside Solar Project Phase 1 is located 0.5 miles north at the southwest corner of Avenal Cutoff Road and 25th Avenue. Directly to the north, across Avenal Cutoff Road, are the Kent South, Orion, and Mustang solar generating facilities and associated substations and switching stations. North of Avenal Cutoff Road on the east side of 25th Avenue, there is an agricultural processing facility located 1.7 miles north of the Aquamarine site, and the Henrietta substation and peaker plant located 2.1 miles north of the project site. To the east of the project site are a series of five dispersed agricultural residences located along and near 22nd Avenue. These residences are located 1.3 to 1.8 miles from the eastern boundary of the Aquamarine site. The nearest ranch complex is the Shannon Ranch located approximately 2.0 miles southwest at the corner of Avenal Cutoff Road and Lincoln/Gale Avenue. The Shannon Ranch includes 20 housing units. The Stone Land Company Ranch, located on the south side of Nevada Avenue, approximately 5.0 miles southwest of the Aquamarine site, includes two dwellings and other ranch buildings.

The nearest population centers include the community of Stratford located 3.0 miles east, the City of Lemoore located 7.0 miles northeast, the Santa Rosa Rancheria located 7.5 miles east, the City of Huron located 9.0 miles west, and the community of Kettleman City located 12.0 miles south. Naval Air Station Lemoore (NASL), and its associated base housing, is located 3.2 miles north of the project site. The Aquamarine project site partially located within an NASL flight approach/departure zone, and is within the Military Influence Area for NASL.
The Kings County segments of the Gen-Tie Line extend approximately 8.7 miles through agricultural lands. Commencing at the southern end of the Aquamarine project site, the Gen-Tie Line alignment runs south along the 25th Avenue alignment for 2.5 miles to Nevada Avenue. The Gen-Tie line then turns westward and runs along the north side of Nevada Avenue through agricultural fields for 6.2 miles to the Fresno County line just west of Avenal Cutoff Road. The only built features along the 8.7-mile Gen-Tie Line consist of two dwellings and farm buildings at the Stone Land Company Ranch, located on the south side of Nevada Avenue 1.4 miles east of the Fresno County line. The Gen-Tie Line then extends a further 6.3 miles along the north side of Jayne Avenue to the Gates Substation in Fresno County.

Planning Context

2035 Kings County General Plan

The “Land Use Map” of the 2035 Kings County General Plan Land Use Element shows the land use designation of the eastern and northeastern 754 acres of the project site as “Exclusive Agriculture – 40 acre,” and the remaining 1,071 acres of the site as “General Agriculture – 40 acre.” The “Exclusive Agriculture – 40 acre” designation generally applies to areas within flight paths of NASL. Both land use designations fall under the broader General Plan category of Agricultural Open Space. The lands traversed by the Gen-Tie Line are largely designated “General Agriculture – 40 acre,” with a small segment along Nevada Avenue near the 28th Avenue alignment designated as “Exclusive Agriculture – 40 acre.” In addition to a range of agricultural uses and ancillary activities, the General Plan allows solar voltaic generating facilities within the Agricultural Open Space areas of the County, as set forth in LU Policy B7.1.3. Energy producing facilities are allowed in the Exclusive Agriculture zone where such facilities would not create a hazard for aircraft, as set forth in RC Policy A1.2.4.

Kings County Development Code

As designated in the Kings County Zoning Plan, the entire Aquamarine site and all the lands traversed by the Gen-Tie Line are zoned “AG-40 General Agricultural-40” (Kings County 1964). As provided in Article 4 of the Kings County Development Code, commercial solar photovoltaic electrical generating facilities are permitted in this zoning district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission. Public utility uses such as transmission lines are permitted uses in this zoning district (Kings County 2016).

Article 11, Section 1112(B)(2) of the Kings County Development Code requires that commercial-scale solar photovoltaic electrical facilities conform to specified standards. Most of these standards relate to agricultural land. The required standards, and the project’s conformity with the standards, are addressed in detail in Section 4.2 Agriculture and Forestry Resources.

NAS Lemoore Joint Land Use Study

The NAS Lemoore Joint Land Use Study (JLUS) involved a multi-agency effort managed by the Department of Defense (DOD) for cooperative land use planning between NAS Lemoore and adjacent communities to provide for compatibility between future community growth and the training and operational missions of the military installation. Since DOD has no regulatory authority for local land use outside the boundaries of the naval air station, the JLUS also includes planning recommendations for consideration by local jurisdictions.
The noise contour mapping prepared for the JLUS shows bands of noise contours exceeding 60 dB CNEL which correspond closely to the flight corridors surrounding the airfield (JLUSPC 2011). The aircraft noise corridor is reflected in the 2035 Kings County General Plan “Land Use Map,” which designates lands within a 3-mile buffer zone from the installation, plus the noise-impacted areas (exceeding 70 dB CNEL) south of the buffer zone, as “Exclusive Agriculture – 40-acre minimum (AX).” The intent of this land use designation is to provide a safety buffer zone around the base by limiting and discouraging intensive agricultural and structure-based land uses that may pose increased risks to inhabitants and base operations (Kings County 2010a). The JLUS also identifies height obstruction limits near NAS Lemoore, with the limits in a given area depending on its location relative to landing approach zones. The entire Aquamarine Solar Project site is mapped as lying just outside Height Restriction Zone “D” which specifies height limits for ground structures of 500 feet above the ground surface (JLUSPC 2011).

Solar generating facilities are specifically addressed in JLUS Recommendation 17, which states: “Establish Minimum Technical Standards for Renewable Energy Facilities Located within NASL Overlay Zones I, II, and III (JLUSPC 2011, p. 2-51). The concern is with “solar farms creating excessive glare from the reflection of the sun” (JLUSPC 2011, p. 2-9). The main concern is with concentrating solar thermal technologies such as lenses or mirrors on a large scale with their reflective characteristics and tall tower collectors. However, “if there is no central collection tower, the new solar panels can be made non-reflective and arrays could be installed to not cause any height or reflective issues” (JLUSPC 2011, p. 2-12).

Environmental Evaluation

a) Would the project physically divide an established community?

Aquamarine Solar Facility and Gen-Tie Line

No Impact. Neither the Aquamarine Solar Project site nor the Gen-Tie corridor is located within or near an established community, so the proposed solar and gen-tie facilities would not physically divide any such community. As such, there is no impact in this regard.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Aquamarine Solar Facility and Gen-Tie Line

No Impact. The potential for the Aquamarine Solar Project and Gen-Tie Line to conflict with the Kings County 2035 General Plan and Kings County Development Code, as well as the applicable land use recommendations of the NAS Lemoore Joint Land Use Study (JLUS), is discussed below.
Chapter 4 – Evaluation of Environmental Impacts
4.11 – Land Use and Planning

**Kings County**

**General Plan**

The 2035 Kings County General Plan designates the eastern and northeastern 754 acres of the project site as “Exclusive Agriculture – 40 acre,” and the remaining 1,071 acres of the Aquamarine site, and the entire Gen-Tie corridor as “General Agriculture – 40 acre.” These land use designations fall under the broader General Plan category of Agricultural Open Space which permits a range of agricultural uses and ancillary activities, as well as solar voltaic generating facilities. Therefore, the planned installation of solar PV generating facilities within the project site would be consistent with the General Plan Land Use Map.

**Zoning**

As designated in the Kings County Zoning Plan, the entire Aquamarine Solar Project site and the Gen-Tie corridor are currently zoned “AG-40 General Agricultural-40.” As provided in Article 4 of the Kings County Development Code, utility-scale photovoltaic electricity generation is a conditionally permitted use in this agricultural zoning district. In addition, utility structures such as the Gen-Tie Line are permitted uses in all Agricultural zoning districts. Therefore, the Aquamarine Solar Project and the Gen-Tie Line would be consistent with the development code upon the granting of the subject Conditional Use Permit for the projects.

Section 1112.B.2 of the Kings County Development Code establishes specific requirements that must be satisfied for the granting of a Conditional Use Permit for a solar generating facility. Since most of the requirements pertain to agriculture, the project’s ability to meet each of the requirements is addressed in section 4.2 Agriculture and Forestry Resources. In summary, all of the requirements in Section 1112.B.2 would be satisfied by the Aquamarine Solar Project.

**NAS Lemoore**

**Safety and Noise**

The mapping prepared for the JLUS shows that the Aquamarine project site lies within the aircraft flight path and the eastern half of the site is subject to noise levels greater than 60 dBA CNEL. As discussed above, the County General Plan ‘AX – Exclusive Agriculture’ designation was specifically created to reflect the NAS Lemoore landing approach flight patterns and the corresponding high noise conditions on those lands. While the intent of the AX land use designation is to limit intensive land uses that may pose increased risks to inhabitants and base operations, low intensity solar PV generating facilities are not noise sensitive land uses and thus would not be incompatible with relatively higher risks and noise levels from overhead flight operations. The noise from military aircraft overflights is addressed in detail in section 4.13 Noise.

**Height Obstruction Limits**

The JLUS also identifies height obstruction limits near NAS Lemoore, with the limits in a given area depending on its location relative to landing approach zones. The entire Aquamarine Solar Project site is mapped as lying just outside Height Restriction Zone “D” which has a height limit for ground structures of 500 feet above the ground surface (JLUSPC 2011). The tallest structures within the project would consist of structural elements associated with the on-site substation that would be as
high as 40 feet. Most project structures would consist of solar arrays, inverter pads, and meteorological stations that would be less than 10 feet high. The Gen-Tie Line also lies entirely outside the NASL Height Restriction Zones, and the height of the monopoles would range from 100 to 180 feet. Thus, even if the Aquamarine project site and Gen-Tie corridor were located within a Height Restriction Zone, the tallest structural features would be well within the 500-foot height limit and would not create operational obstructions.

Reflected Glare

The JLUS addresses concerns with aviation hazards from reflection and glare. Solar facilities are mentioned specifically for their potential to produce reflective surfaces, but the JLUS acknowledges that the main concern was with highly reflective mirrors used in concentrating solar thermal facilities. The JLUS acknowledges that “if there is no central collection tower, the new solar panels can be made non-reflective and arrays could be installed to not cause any height or reflective issues” (JLUSPC 2011, p. 2-12). Indeed, solar PV employs glass panels that are designed to maximize absorption and minimize reflection to increase electricity production efficiency. To limit reflection, solar PV panels are constructed of dark, light-absorbing materials, and are given an anti-reflective coating or textured surface. With the addition of the anti-reflective coating or treatment, the reflectivity can be reduced to less than 4 percent of incoming sunlight. Since the solar panels would have low reflective intensity and would be covered with anti-reflective coating, any resulting glare effects would not be so bright as to disrupt aircraft operations in the area.

It is noted that a glint and glare study using the Sandia Laboratory’s Solar Glare Analysis Tool (SGHAT) was prepared for the adjacent Mustang Two Solar Project MND in August 2016. In the analysis, impacts from solar glare were given three ranks: potential for permanent eye damage; potential for temporary after-image (a lingering image of the glare in the field of view); and low potential for temporary after-image. Results from the analysis indicated that pilots flying over and near the solar facility would experience a low potential for a temporary after-image, and the potential would be limited to early morning from approximately April through September. The low potential for temporary after-image level is generally considered to be safe for pilots (Kings County 2017). The results of this glint and glare analysis are considered to be applicable to the Aquamarine Solar Project, which is directly adjacent to the Mustang Two Solar Project site. Therefore, it is concluded that the solar PV panels to be installed within at the Aquamarine Solar Project would not pose a potential hazard to aircraft operations at NAS Lemoore due to reflected glare. No portion of the Gen-Tie corridor is crossed by a mapped flight track for NASL aircraft operations, and the Gen-Tie Line would not include reflective surfaces that could produce glare and thus would not pose a potential safety hazard to aviation in this regard (see section 4.9 Hazards and Hazardous Materials for further discussion of reflected glare).

In summary, the Aquamarine Solar Project and Gen-Tie Line would be consistent with the applicable provisions of the Kings County 2035 General Plan and the County Development Code, and would also be consistent with the local recommendations of the NAS Lemoore Joint Land Use Study. Therefore, the Aquamarine Solar Project and Gen-Tie Line would result in no impact with respect to potential conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect.
REFERENCES – LAND USE AND PLANNING


Kings County 1964 County of Kings. 1964. Zoning Plan – County of Kings California. Adopted April 7, 1964. [Available for review at Kings County CDA.]


4.12 MINERAL RESOURCES

<table>
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<tr>
<th>Would the project:</th>
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<tr>
<td>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?</td>
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<tr>
<td>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?</td>
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Environmental Evaluation

a) Would the project 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?

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Southern Kings County and western Fresno County include several oil and natural gas fields. The nearest wellfield in the project vicinity is the abandoned Westhaven oil field located west of the Aquamarine project site near the Fresno County line. There are a number abandoned oil wells associated with the Westhaven oil field, the nearest three of which are located between 1.0 and 2.0 miles west and northwest of the Aquamarine project site. Along the Gen-Tie Line there are 5 abandoned oil wells located within one mile of Nevada Avenue, the nearest of which is approximately 500 feet south of Nevada Avenue. The nearest natural gas fields are abandoned fields located southeast of Kettleman City, approximately 15 miles south of the Aquamarine project site and 12 miles south of the Gen-Tie corridor. There are no mapped oil or natural gas fields, or former oil or natural gas wells, within or adjacent to the Aquamarine project site or the Gen-Tie corridor. Therefore, the Aquamarine Solar Project and Gen-Tie Line would not result in the loss of availability of a known oil or gas resource (DOGGR 2018).

There are no active sand or gravel extraction sites or other surface mining sites in Kings County; however, there are two inactive mine sites within the County. The first is the Pires Mine Site, a surface mining site located 10 miles northeast of the Aquamarine project site, which is no longer actively mined but has not been officially closed. The second is the Hewitson Mine, an aggregate mine located 20 miles southwest of the Aquamarine project site. This mine has a permit and an Interim Management Plan, and mineral production could begin at any time. Both of these mines are located substantial distances from the Aquamarine project site and Gen-Tie corridor, so construction of the Aquamarine Solar Project and Gen-Tie Line would not result in the loss of availability of these mineral resources in the region.

The nearest active surface mining sites are in western Fresno County and consist of two large sand and gravel operations near Coalinga, located approximately 20 miles southwest and 25 miles west of...
the Aquamarine project site. There are no sand and gravel deposits in the project area, in either Kings or Fresno counties, and construction of the Aquamarine Solar Project and Gen-Tie Line would not result in the loss of availability of sand and gravel resources in the region.

In summary, the Aquamarine Solar Project and Gen-Tie Line would have no impact upon availability of known mineral resources.

b) Would the project 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?

Aquamarine Solar Facility and Gen-Tie Line

No Impact. Mineral resources are addressed in the Resource Conservation Element of the 2035 Kings County General Plan. The General Plan recognizes that oil and natural gas production in the County has diminished and does not designate any areas of the County for oil and gas recovery. Similarly, the General Plan notes the low potential for surface mining in the County and does not designate any areas of the County as important aggregate or other mineral recovery sites (Kings County 2010b). Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact with respect to loss of availability of important mineral recovery sites designated on local land use plans.

REFERENCES – MINERAL RESOURCES


4.13 NOISE

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</thead>
<tbody>
<tr>
<td><strong>a)</strong> Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>☐</td>
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<tr>
<td><strong>b)</strong> Generation of excessive groundborne vibration or groundborne noise levels?</td>
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<tr>
<td><strong>c)</strong> For a project located within the vicinity of a private airstrip or 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?</td>
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The discussion of potential noise and vibration impacts in this section is based on the *Noise and Vibration Assessment* prepared by Illingworth & Rodkin in December 2018. The noise report, which is contained in Appendix D of this document, includes a detailed discussion on the fundamental concepts of noise and vibration, as well as definitions of acoustical terms used in the noise report and in the following discussion.

**Noise Setting**

The existing noise environment in the project area is typical of rural agricultural environments. The primary noise sources in the project vicinity include: 1) traffic on County roads (Avenal Cutoff Road, 25th Avenue, Laurel Avenue, and Nevada Avenue; 2) agricultural equipment and crop dusters; and 3) occasional overflights by military aircraft from Naval Air Station Lemoore.

**Aquamarine Solar Project**

The Aquamarine Solar Project site is located approximately 6.0 miles south of the airfield at Naval Air Station Lemoore (NASL), and is included in the study area for the NAS Lemoore Joint Land Use Study. The project site is located within the NASL flight pattern and falls between the 60 dBA and 75 dBA CNEL noise contours as mapped in the NAS Lemoore Joint Land Use Study (JLUSPC 2011, p. 2-11.).

There are no noise-sensitive residential receivers within 1.0 mile of the Aquamarine project site. The nearest residences consist of a series of 5 dispersed rural residences located along 22nd Avenue and Laurel Avenue at distances ranging from 1.3 to 1.8 miles east of the Aquamarine site. The next nearest residences consist of the 20 single-family dwellings at the Shannon Ranch complex located at the southwest corner of Avenal Cutoff Road and Lincoln/Gale Avenue approximately 2.0 miles southwest of the project. The next nearest sensitive receptors consist of the base housing at NAS Lemoore, with the nearest base housing located on the north side of SR-198 approximately 3.0 miles north of the project.
site. The Stone Land Company Ranch, located along the south side of Nevada Avenue opposite the gen-
tie corridor and 5.0 miles southwest of the Aquamarine site, includes two ranch dwellings.

In order to document noise conditions at the receptors in the Shannon Ranch complex, long-term noise
measurements were conducted at the ranch between Monday, December 14, 2015 and Tuesday,
December 15, 2015. The sound level meter was placed approximately 80 feet from the center of Avenal
Cutoff Road to represent the noise exposure at residences in the immediate vicinity of the roadway.
The noise measurements documented the existing daily trend in noise levels due to traffic. Day-night
average noise levels at this site were 75 dBA L\text{dn}. Typical daytime hourly average noise levels were
approximately 66 to 72 dBA L\text{eq}.

**Gen-Tie Line**

The only noise sensitive receivers along the Gen-Tie corridor are two dwellings located at the Stone Land
Company Ranch on the south side of Nevada Avenue east of Avenal Cutoff Road. In order to document
conditions at the receptors in the Stone Land Company Ranch complex, a long-term noise measurement
was conducted alongside Nevada Avenue at the ranch between Monday, December 14, 2015 and
Tuesday, December 15, 2015. The sound level meter was placed approximately 27 feet from the center
of Nevada Avenue to represent the noise exposure at residences in the immediate vicinity of the
roadway. The noise measurements documented the existing daily trend in noise levels due to traffic.
The day-night average noise level at this site was 67 dBA L\text{dn}. Typical daytime hourly average noise levels
were approximately 57 to 69 dBA L\text{eq}.

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**Environmental Evaluation**

**a)** *Would the project result in generation of a substantial temporary or permanent increase
in ambient noise levels in the vicinity of the project in excess of standards established in
the local general plan or noise ordinance, or applicable standards of other agencies?*

**Aquamarine Solar Project**

**Less-than-Significant Impact.** Noise would be generated during the construction, operations, and
decommissioning phases of the Aquamarine Solar Project. The potential for temporary and
permanent noise sources from the project to exceed applicable noise standards is discussed below
for each phase of the project.

**Construction Phase**

During the construction phase, the two main sources of noise would be from on-site grading and
construction, and from off-site traffic generation, each of which is discussed in turn below.

**On-Site Construction Noise**

The construction noise levels would depend on the noise generated by various pieces of
construction equipment, the timing and duration of noise-generating activities, and the distance
between construction noise sources and noise sensitive receptors. In accordance with the 2035
Kings County General Plan Noise Element policies, a significant noise impact would occur if
Construction noise levels would be highest during site grading, excavation, and installation of solar equipment. Hourly average noise levels generated by construction equipment associated with the project are calculated to range from 85 dBA $L_{eq}$ to 87 dBA $L_{eq}$ measured at a distance of 50 feet, assuming that all equipment proposed for each construction phase are operating simultaneously. Construction generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor (I&R 2018). The nearest noise-sensitive residential land uses are located over 1.0 mile to the east. At this distance, the maximum construction noise levels reaching the nearest residences would range from 45 dBA $L_{eq}$ to 47 dBA $L_{eq}$, taking into consideration the attenuation of sound with distance from the noise source. These construction-related noise levels would be well below the applicable County noise standards and would be lower than ambient daytime noise levels at the nearest receptors. Therefore, the temporary increase in ambient noise levels resulting from project construction activities would not exceed applicable noise standards and the impact would be less than significant.

Construction Traffic

The analysis of construction traffic noise used a baseline of existing Average Daily Traffic (ADT) volumes on the affected roadway segments, and added worker and truck volumes generated during project construction. It was calculated that the highest noise level increase on the affected roadways due to project construction traffic would be less than 0.3 dBA $L_{dn}$/CNEL above existing traffic noise conditions without the project at the most affected roadway – Avenal Cutoff Road.

Under 2035 Kings County General Plan Noise Policy B1.2.1, the project would result in a significant noise impact if: a) the noise level increase is 5 dBA $L_{dn}$/CNEL or greater, where the pre-project noise level is less than 60 dBA $L_{dn}$/CNEL; or b) the noise level increase is 3 dBA $L_{dn}$/CNEL or greater, where the pre-project noise level between 60 and 65 dBA $L_{dn}$/CNEL; or c) the noise level increase is 1.5 dBA $L_{dn}$/CNEL or greater, where the pre-project noise level between 65 dBA $L_{dn}$/CNEL or greater (Kings County 2010f).

As noted in ‘Noise Setting’ above, noise measurements taken by Illingworth & Rodkin alongside Avenal Cutoff Road at the Shannon Ranch indicate that pre-project noise levels at that location are 75 dBA $L_{dn}$. This noise level is considered to represent worst-case ambient noise levels along the affected roadways. The 0.3 dBA $L_{dn}$/CNEL temporary increase in noise levels from project construction traffic is well below the 1.5 dBA increase that would indicate a significant impact where ambient levels are 65 dBA $L_{dn}$/CNEL or greater, per the County’s noise standards. Therefore, the temporary increase in ambient noise levels resulting from construction traffic generated by the Aquamarine Solar Project would not exceed applicable noise standards, and the impact would be less than significant.

Operational Phase

During the operational phase of the Aquamarine Solar Project, the two main sources of noise would be from on-site activities, and from off-site traffic generation, each of which is discussed in turn below.
On-Site Noise Sources

Noise sources at the project site would include inverters and transformers necessary to convert the generated power to collection voltage. The 250 MW Aquamarine Solar Project would include a total of 100 inverter/transformer pads (i.e., 1 per 2.5 MW of output). The predicted noise level attributable to one inverter/transformer is 52 dBA measured at a distance of 50 feet from the equipment (I&R 2018). The operation the 100 inverters/transformers at the project would result in an estimated worst-case noise level of 72 dBA, measured at a distance of 50 feet (Ibid.).

The Aquamarine Solar Project would include one substation, located at the southern end of the site, for the purpose of stepping up voltage levels to 230-kV for transmission on the Gen-Tie Line. Sources of audible noise within a substation include equipment such as transformers, reactors, voltage regulators, circuit breakers and other intermittent noise generators. Among these sources, transformers, reactors, and circuit breakers have the greatest potential for producing noise. The broadband sound from fans, pumps and coolers has the same character as ambient sound and tends to blend with the ambient noise. Reactors are similar to transformers in terms of audible noise and would generate noise levels of about 40 dBA $L_{eq}$ at 200 feet (SLO County 2011, p. AP. 4-114). The highest noise levels would be produced by circuit breakers, which would occur infrequently when breakers are thrown to protect the system during an electrical fault due to line overloads. The resultant noise would be impulsive in character, being loud and short in duration. The maximum impulse noise level from the breakers would be approximately 105 dBA $L_{max}$ at 50 feet (Ibid.).

2035 Kings County General Plan, Noise Policy B1.1.1 requires that appropriate noise mitigation measures be included in a proposed project design when the proposed new use will include non-transportation noise sources that would exceed the County’s “Non-Transportation Noise Standards” (Noise Element Table N-8). The daytime noise limits enforced at residential properties are 75 dBA $L_{max}$ and 55 dBA $L_{eq}$ (Kings County 2010f). The inverters/transformers at the project would operate only during daytime hours when the solar facility is generating power. There would be no noise generated by the project at night, when County noise limits are 5 dBA more restrictive (i.e., 70 dBA $L_{max}$ and 50 dBA $L_{eq}$).

Noise from “point” sources decreases at a rate of 6 dBA with each doubling of the distance between the noise source and receptor (I&R 2018). Based on the worst-case noise level estimate of 72 dBA $L_{max}$ at a distance of 50 feet from the noise source, predicted noise levels at the nearest residential land uses located 1.0 mile from the project site are calculated to be less than 32 dBA $L_{max}/L_{eq}$. These noise levels would be inaudible above ambient noise levels. The estimated noise levels from project operations would be below the County’s 75 dBA $L_{max}$ and 55 dBA $L_{eq}$ noise limits for residential uses. Therefore, the permanent increase in ambient noise levels resulting from operation of the Aquamarine Solar Project would not exceed applicable noise standards and the impact would be less than significant.

Operational Traffic Noise

Traffic generated during project operations would be very light, given the small number of workers that would travel to the site on an intermittent basis. It was calculated that the highest traffic noise increase attributable to project operational traffic on the affected roadways would be less than 0.1 dBA $L_{eq}$/CNEL above existing traffic noise conditions without the project at the most affected roadways – Laurel Avenue and Avenal Cutoff Road. The noise levels would be well below the
applicable impact thresholds, discussed above, and would not be noticeable to the potentially affected sensitive receptors. Therefore, the permanent increase in ambient noise levels resulting from operational traffic generated by the Aquamarine Solar Project would not exceed applicable noise standards and the impact would be less than significant.

Decommissioning Phase

Noise levels generated during deconstruction activities would be similar to those generated during construction except that some of the noisiest construction equipment, such as pile drivers and vibratory rollers, would not be used during decommissioning. As is the case with construction noise, the on-site noise generated during decommissioning would be well below County noise standards at the nearest sensitive receptors. Traffic volumes generated during decommissioning would be similar to those associated with construction, and the resulting noise levels would be well below applicable County standards as well. Therefore, the temporary noise levels resulting from decommissioning activity and traffic associated with the project would not result exceed applicable noise standards and the impact would be less than significant.

In summary, the temporary and permanent noise increases resulting from the construction, operations, and decommissioning phases of the Aquamarine Solar Project would not exceed applicable noise standards, and the impact would be less than significant.

Gen-Tie Line

Less-than-Significant Impact. Noise would be generated during the construction and operational phases of the Gen-Tie Line. The potential for project-generated noise to exceed applicable noise standards is discussed below for each phase of the project.

Construction Phase

On-Site Construction Noise

The Kings County segments of the Gen-Tie Line are planned to be constructed over a 6-month period beginning in late 2019. The general sequence of activities for construction of the Gen-Tie Line would involve the following steps: clearing of right-of-way and staging areas; construction of access roads; installation of tower footings and structures; and conductor stringing. These construction activities would proceed in step-wise fashion from one end of the Gen-Tie corridor to the other, and as such the duration of construction at any given location would be relatively brief.

The noisiest construction activity would occur during site preparation of tower sites and staging areas, when most construction equipment would be used. This equipment typically includes dozers, graders, compactors, auger drill rigs, and trucks, which produce maximum noise levels ranging from 80 to 85 dBA at 50 feet. The maximum noise level generated by several pieces of equipment operating continuously at a distance of 50 feet would be about 90 dBA. Throughout the Gen-Tie route, most residential receptors would be located at least 1.3 miles from construction activity, except at the Stone Land Company Ranch where there are two single-family dwellings located approximately 200 feet south of the nearest edge of the gen-tie right-of-way. At this distance, the maximum noise level at the nearest residence would be 78 dBA, given that maximum noise levels would decrease at the rate of 6 dBA per doubling of distance from a point source. The applicable Kings County Noise Element standard at the Stone Land Company Ranch is 80 dBA Lmax (i.e., 75 dBA base standard increased by
5 dBA to encompass the ambient 76 dBA per Kings County Noise Element). Therefore, the maximum noise levels of 78 dBA that would occur at the two residential facades at the ranch from operation of conventional construction equipment would not exceed the applicable Kings County noise standard.

Helicopter construction would be used for stringing pilot wires for conductors between monopoles. The operation of a helicopter for construction would generate maximum noise levels of approximately 80 dBA at 200 feet (USBLM 2013, p. 3.23-11). The stringing of conductor pilot wires by a helicopter would occur along the pole line located near the center of the right-of-way. The nearest conductor arm would be at least 30 feet from the edge of the right-of-way, or 230 feet from the nearest residence at the Stone Land Company Ranch. At this distance, the maximum noise level at the nearest residence would be 79 dBA. As mentioned, the applicable Kings County Noise Element standard at the Stone Land Company Ranch is 80 dBA \( L_{\text{max}} \) (i.e., Kings County base standard of 75 dBA \( L_{\text{max}} \) plus 5 dBA to encompass the 76 dBA \( L_{\text{max}} \) ambient noise level). Therefore, the maximum noise levels of 79 dBA that would occur at the two residential facades at the ranch from helicopter construction would not exceed the applicable Kings County noise standard.

In summary, the maximum noise levels of 79 dBA that would occur at the two residential facades at the Stone Land Company Ranch during Gen-Tie construction would not exceed the applicable Kings County noise standard. Therefore, the temporary increase in noise levels resulting from Gen-Tie Line construction would not exceed the applicable noise standards and the impact would be less-than-significant.

Construction Traffic

The construction of the Gen-Tie Line would involve truck trips for hauling equipment and materials to and from the construction sites, and also commute trips by construction workers arriving and departing the construction sites. During the busiest construction phase, when all construction activities would be ongoing, the maximum workforce would be 59 workers, and there would be an average of 15 daily deliveries of equipment and materials. This would result in 108 worker commute trip ends and 30 haul trip ends daily. The worker trips would be concentrated at the beginning and end of work shifts, resulting in 59 AM trips and 59 PM trips. The haul truck trips would occur throughout the day and would average about 4 trips per hour for an 8-hour workday.

The roadway network in the vicinity of the Gen-Tie Line is subject to relatively low traffic volumes typical of the rural setting. Since these roadways currently serve local agricultural operations, dispersed dwellings, and agricultural processing and support facilities, the areas along the roads are currently subject to occasional noise from farm equipment and heavy trucks, as well as light passenger vehicle traffic. The addition of haul truck traffic and commute traffic associated with Gen-Tie Line construction would likely be noticeable in the areas immediately adjacent to the travel routes. The noise associated with this traffic would increase noise levels by less than 1 dBA \( L_{\text{dn}} \) over ambient noise levels along roadways subject to the construction traffic, which mainly include Nevada Avenue and Jayne Avenue (in Fresno County). Although noise from individual truck pass-bys would be noticeable to nearby receptors in the rural noise environment, the noise level increase would be less than the smallest incremental noise threshold considered significant (i.e., 1.5 dBA \( L_{\text{dn}} \) where ambient noise is over 65 dBA \( L_{\text{dn}} \)) in Kings County. Since the total duration of Gen-Tie construction in Kings County would be approximately eight months, the noise from construction traffic would be temporary, and the minor and short-term increase in traffic noise resulting from Gen-Tie Line construction would be negligible. Therefore, the temporary increase in noise levels
resulting from Gen-Tie Line construction traffic would not exceed the applicable noise standards and the impact would be less-than-significant.

In summary, the temporary increases in ambient noise levels resulting from the construction activity and construction traffic generated by the Gen-Tie Line would not exceed the applicable noise standards and the impact would be less than significant.

Operational Phase

The primary noise sources associated with the operation of the Gen-Tie Line would be noise emitted by maintenance activities and by the Gen-Tie Line itself. Maintenance activities would include annual visual inspections of the transmission lines and access roads. These activities would typically involve the use of light duty trucks, although helicopters may sometimes be used for this purpose. The maintenance and inspection activities would occur infrequently and noise from truck or helicopter pass-bys would be short in duration.

Within Kings County, the nearest sensitive receivers to the Gen-Tie Line are the two residences at the Stone Land Company Ranch. These residences are located 200 feet from the nearest edge of the gentie right-of-way on the opposite side of Nevada Avenue. The operation of a helicopter maintenance and inspection would generate maximum noise levels of approximately 80 dBA at 200 feet (USBLM 2013, p. 3.23-11). The nearest conductor arm would be at least 30 feet from the edge of the right-of-way, or 230 feet from the nearest residence. At this distance, the maximum noise level at the nearest residence would be 79 dBA. The applicable Kings County noise standard at the Stone Land Company Ranch is 80 dBA $L_{\text{max}}$ (i.e., 75 dBA base standard increased by 5 dBA to encompass the ambient 76 dBA per Kings County Noise Element). Therefore, noise generated by maintenance and inspection of the Kings County segments of the gen-tie line would not exceed the applicable noise standard.

Once completed, the operation of the Gen-Tie Line would generate very little traffic. During annual inspection and maintenance activities, light utility trucks would traverse local roadways to access transmission towers and maintenance roads. The additional traffic noise generated by these occasional maintenance trips would be negligible and would not result in increased average noise levels along the affected roadways. Therefore, the potential traffic noise associated with Gen-Tie Line operation would exceed the applicable noise standard.

Once energized, the high-voltage conductors of the Gen-Tie Line would be subject to corona discharge. This involves the breakdown of air into charged particles caused by the electrical field at the surface of a conductor, which can result in a crackling or hissing noise and very small amounts of light. Audible noise from corona discharge varies depending on the voltage of the line and is locally intensified by irregularities on the conductor surface such as scratches or water drops. Wet weather conditions often increase corona discharge due to accumulation of raindrops, fog, frost or condensation on the conductor surface which causes surface irregularities and result in small electrical discharges. In addition to noise generation, corona also results in power loss in the transmission line. Therefore, transmission lines are designed to include sufficiently large conductors and smooth-edged hardware, which reduces the potential for corona. For a double-circuit 230-kV transmission line in a 100-foot wide right-of-way, maximum noise levels that would be generated by corona discharge during wet conditions would be 37 dBA at the edge of the right-of-way (CPUC 2009, p. 4.10-12). The corona noise generated during dry conditions would be less than 25 dBA and would be barely audible...
(SLO County 2011). The nearest dwellings to the Gen-Tie Line consist of two existing residences along the south side of Nevada Avenue at the Stone Land Company Ranch and would be located 200 feet from the nearest edge of the gen-tie right-of-way. At this distance, the noise from corona discharge would not be audible by the nearest receivers even under wet conditions. All other residential receptors in Kings County would be located at least one mile from the transmission lines. Therefore, the potential noise impact due to corona discharge along the Kings County segments of the Gen-Tie Line would not exceed the applicable noise standard.

In summary, the permanent increases in ambient noise levels resulting from the operation of the Gen-Tie Line would not exceed the applicable noise standards and the impact would be less than significant.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

**Aquamarine Solar Project**

**Less-than-Significant Impact.** The construction of the Aquamarine Solar Project may generate perceptible vibration in the immediate vicinity of the project site when heavy equipment or impact tools are used. Groundborne vibration levels would be highest during site preparation activities and when the solar arrays are installed, given that the cylindrical steel posts (or H-beams) will be driven into the ground using truck-mounted vibratory drivers.

Vibration is measured as peak particle velocity (PPV) in inches per second. The equipment to be used at the project site that would result in the greatest vibration includes sonic pile drivers, vibratory rollers, and bulldozers. The vibration levels typically produced by a sonic pile driver can reach 0.170 in/sec PPV at a distance of 25 feet. Vibratory rollers and large bulldozers typically generate vibration levels ranging from 0.089 to 0.210 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used (Illingworth & Rodkin 2018).

The California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings that are structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened. No ancient buildings or buildings that are documented to be structurally weakened are present near the project site. Therefore, the applicable impact threshold for groundborne vibration would be levels exceeding 0.3 in/sec PPV at the nearest receptors.

Within the project vicinity, the nearest structures to the construction activity would be: 1) the solar arrays at the Westside Solar Project Phase 1 located 0.5 miles north of the nearest construction activity; and 2) the solar arrays and substation at the Kent South solar generating facility at the northwest corner of Avenal Cutoff Road and 25th Avenue, which would be at least 0.4 miles from the nearest on-site construction activity. The potential for greatest vibration would be during heavy equipment movement and vibratory pile driving of the support posts for the solar arrays, which would generate vibration levels of 0.210 and 0.170 in/sec PPV, respectively, at 25 feet from the source. At a
distance of 0.4 miles, these vibration levels would decrease to 0.001 in/sec PPV, respectively, at the nearest receiver. These vibration levels would be well below the 0.3 in/sec PPV impact threshold for sound structures, and would also be well below the 0.08 in/sec PPV limit applicable to structurally weakened structures. The majority of construction activity at the project site would occur well beyond these distances from the nearest structures. Therefore, groundborne vibration from project construction would have no impact on existing structures in the project vicinity.

People can also be adversely affected by excessive vibration levels. The level at which humans begin to perceive vibration is 0.015 inches per second. Vibrations at 0.2 inches per second are considered bothersome to most people, while continuous exposure to long-term PPV is considered unacceptable at 0.12 inches per second (Illingworth & Rodkin 2018). There are no residential receptors in immediate project vicinity. The existing solar facilities located 0.4 miles to the north, identified above, may occasionally involve the presence of workers as close as 0.4 miles from the nearest construction activity on the project site. At this distance, the greatest vibration from the nearest project construction activity would decrease to 0.001 in/sec PPV, which would not be perceptible to those workers. Therefore, project construction activities would have not expose persons to excessive vibration levels.

In summary, the heaviest construction equipment that would be used for construction of the Aquamarine Solar Project would produce vibration levels that would be far below the vibration levels necessary to cause damage to the nearest off-site buildings, or to be perceptible to the nearest off-site persons. Therefore, the project would not result in the exposure of persons to, or generation of, excessive groundborne vibration levels. As such, the potential vibration impacts due to construction activities associated with the Aquamarine Solar Project would be less than significant.

**Gen-Tie Line**

**Less-than-Significant Impact.** For Gen-Tie construction, the heaviest equipment would consist of bulldozers, loaded trucks, and drill rigs (for excavating holes for tower footings), all of which would generate a PPV of 0.089 inches per second at 25 feet. (Non-conventional construction techniques, such as blasting, are not expected to be required.) Along the Kings County Gen-Tie segment, there are two residences located within 350 feet of the Gen-Tie right-of-way. These comprise the two dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue, which are 200 feet from the Gen-Tie right-of-way, and 265 feet from the nearest planned monopole. Other structures at the ranch are at least 340 feet from the Gen-Tie right-of-way. At a distance of 200 feet, the heaviest equipment would generate a PPV of 0.009 inches per second, which is well below the levels where potential building damage could occur (i.e., 0.3 and 0.08 in/sec), and below the threshold of human perception for vibration (i.e., 0.015 in/sec). Therefore, the potential vibration impacts from equipment used in construction of the Kings County segment of the Gen-Tie Line would be less-than-significant.
c) For a project located within the vicinity of a private airstrip or 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?

Aquamarine Solar Project

Less-than-Significant Impact. The Aquamarine Solar Project is not located near a public airport or public use airport, and is not located within an airport land use plan area. The nearest public or public use airports include the Hanford, Corcoran, and Coalinga municipal airports, and the Harris Ranch airfield, all of which are located 17 miles or more from the project site.

The Aquamarine Solar Project site is located 6.0 miles south of the airfield at Naval Air Station Lemoore (NASL), and is included in the study area for the NAS Lemoore Joint Land Use Study (JLUS). The project site is located within the NASL flight pattern and is mapped as land subject to noise levels lower than 75 dBA CNEL as mapped in the NAS Lemoore Joint Land Use Study. The eastern one-eighth of the project site is exposed to noise levels just over 70 dBA CNEL, while the western three-fourths of the site is exposed to noise levels of less than 65 dBA CNEL (JLUSPC 2011, p. 2-11). The Kings County General Plan noise standard for the noise-sensitive outdoor areas of commercial or industrial developments is 65 dBA CNEL if the noise is from transportation sources such as aircraft overflights (Kings County General Plan Noise Element Table N-7). However, the proposed solar facilities are not considered noise-sensitive land uses and will have no permanent employees stationed on-site that would utilize outdoor use areas. Although Kings County has not established a noise limit for outdoor use areas that are not noise sensitive, noise levels exceeding 76 dBA CNEL are considered hazardous to health as determined by the US Environmental Protection Agency (US EPA 1974). Aircraft overflights would expose construction workers, who would be on the site temporarily, and the operational workers, who would visit the site periodically, to noise levels of just over 70 dBA CNEL, and well below the 76 dBA CNEL threshold. Therefore, the project would not expose workers on the project site to excessive noise levels from flight operations at NAS Lemoore. As such, the impact of the Aquamarine Solar Project’s exposure to noise from airport operations would be less than significant.

The Aquamarine Solar Project site is not located within the vicinity of a private airstrip. There are five airstrips within a 5-mile radius of the site, the nearest of which is 2.0 miles west at the Shannon Ranch. As such, the project would not expose people working at the project site to excessive noise levels associated with the operation of a private airstrip. Therefore, the Aquamarine Solar Project would be associated with no impact due to private airstrips in the vicinity.

In summary, the impact associated the Aquamarine Solar Project’s exposure to noise from airport operations associated with a private airstrip or public airport or public use airport or would be less than significant.

Gen-Tie Line

Less-than-Significant Impact. The nearest municipal airports to the Kings County segments of Gen-Tie Line include the Hanford, Corcoran, and Coalinga airports, all of which are located between 15 and 20 miles from the Gen-Tie corridor at their nearest points. In addition, the airfield at NAS
Lemoore is located 9 miles from the Gen-Tie corridor. The flight operations associated with these airports are too far from the Gen-Tie corridor to result in excessive noise levels to workers on the Gen-Tie Line. Therefore, workers on the Gen-Tie project would not be exposed to excessive noise levels from flight operations associated with public or public use airports, as well as NAS Lemoore, and the impact would be less-than-significant.

There are five private airstrips within about 5 miles of the Gen-Tie Line. The nearest airstrip is at the Stone Land Company Ranch on Nevada Avenue, where the north end of the runway is about 1,500 feet from the Gen-Tie right-of-way. Occasional takeoffs and landings at this airstrip would generate noise at the nearby section of the Gen-Tie corridor. However, the noise levels from small private aircraft would not be excessive, and construction workers would be present in the vicinity for relatively brief periods during Gen-Tie Line construction, and rarely during inspection and maintenance activities once the Gen-Tie Line is completed. These workers would not be exposed to excessive noise levels from flight operations associated with private airstrip at the Stone Land Company Ranch. The remaining four airstrips are located from 3 to 5 miles from the Gen-Tie Line. At these distances, flight operations associated with the airstrips would not result in excessive noise levels at the nearest segments of the Gen-Tie Line. Therefore, workers on the Gen-Tie Line would not be exposed to excessive noise levels from flight operations associated with private airstrips, and the impact would be less-than-significant.

In summary, the impact associated with the Gen-Tie Line’s exposure to noise from airport operations associated with a private airstrip or public airport or public use airport or would be less than significant.

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**REFERENCES – NOISE**

Chapter 4 – Evaluation of Environmental Impacts
4.13 – Noise

Kings County 2010f
http://www.countyofkings.com/home/showdocument?id=3120

Kings County 2018
https://www.municode.com/library/ca/kings_county/codes/code_of_ordinances

SLO County 2011

USBLM 2013
https://eplanning.blm.gov/epl-front-office/eplanning/docset_view.do?projectId=65164&currentPageId=92763&documentId=78833

US EPA 1974
https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000L3LN.TXT
4.14 POPULATION and HOUSING

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Induce substantial unplanned 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)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>■</td>
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<tr>
<td>b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>■</td>
</tr>
</tbody>
</table>

Environmental Evaluation

a) Would the project induce substantial unplanned 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)?

Aquamarine Solar Facility

No Impact. The Aquamarine Solar Project would not include a residential component so it would not directly induce population growth in the area. The Aquamarine project would involve a maximum construction workforce of about 430 workers during the peak period of construction. Upon completion, no permanent operational staff would be stationed at the solar facility, with up to 10 workers visiting the site on any given day to perform inspection, maintenance, repair, and panel cleaning duties. The construction and operational workers are expected to be drawn from the existing labor pool in the region, and would not directly result in population growth. Since the solar facility operations would be managed by a contractor, the Aquamarine Solar Project would likely be one of several solar facilities serviced by these workers. Thus the Aquamarine Solar Project would result in the need for additional personnel if it resulted in the contractor exceeding its capacity to continue to service its client solar facilities at existing staffing levels with the addition of the Aquamarine Solar Project. In the event that new workers are needed to service the project, and if such workers may relocate to the area for the employment opportunities resulting from the project, it is anticipated that such relocating workers would find ample housing choice from the existing inventory of homes in the region. Therefore, the Aquamarine Solar Project would result in no impact with regard to potential inducement of substantial unplanned population growth in the area.

The Aquamarine Solar Project would not result in the extension or roads or urban utilities (e.g., water and sewer) to lands not currently served by urban infrastructure, and thus would not induce unplanned urban development into the rural area of the County. Therefore, the Aquamarine Solar Project would not induce indirect growth through extension of urban infrastructure.

In summary, the Aquamarine Solar Project would result in no impact with respect to growth inducement, either by way of population growth or by extension of urban infrastructure.
Gen-Tie Line

**No Impact.** The Gen-Tie Line would not include a residential component so it would not directly induce population growth in the area. During construction, the Gen-Tie Line is expected to require a total workforce of about 59 workers over a construction period of approximately 8 months for the Kings County segment. It is expected that most of construction personnel would be drawn from the communities in the region, although some specialized workers may need to be brought in from outside the area and be temporarily lodged in local hotels. Upon completion, the operation of the Gen-Tie Line would require no on-site staff, and would receive intermittent inspections and maintenance activities by utility workers. Thus Gen-Tie Line would not induce substantial population growth in the area.

The Gen-Tie Line would not result in the extension or roads or urban utilities (e.g., water and sewer) to lands not currently served by urban infrastructure, and thus would not induce unplanned urban development into the rural area of the County. Therefore, the Gen-Tie Line would not induce indirect growth through extension of urban infrastructure.

In summary, the Gen-Tie Line would result in *no impact* with respect to growth inducement, either by way of population growth or by extension of urban infrastructure.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Aquamarine Solar Facility

**No Impact.** There are no residential buildings on the Aquamarine Solar Project site or within a 1.3 mile radius of the site. The nearest agricultural residences are five dispersed dwellings located 1.3 to 1.8 miles to the east along 22nd Avenue. The Shannon Ranch complex is located 2.0 miles west, and the base housing complex at NAS Lemoore located 3.0 miles north. None of these residential properties would be removed or encroached upon as a result of the Aquamarine Solar Project. Thus the Aquamarine project site contains no housing or people that could be displaced by the project, and therefore the project would not necessitate the construction of replacement housing. The Aquamarine Solar Project would have *no impact* with regard to displacement of existing people or housing.

Gen-Tie Line

**No Impact.** There are no dwellings within the Gen-Tie corridor, with the nearest residences consist of two dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue, on the opposite side of the roadway from the Gen-Tie corridor. Neither of these dwellings would be removed or encroached upon by the Gen-Tie Line. Thus the Gen-Tie corridor contains no housing or people that could be displaced by the project, and therefore the Gen-Tie Line would not necessitate the construction of replacement housing. The Gen-Tie Line would have *no impact* with regard to displacement of people existing people or housing.
4.15 PUBLIC SERVICES

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 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:</td>
<td>☐</td>
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<tr>
<td>i) Fire protection?</td>
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<td>ii) Police protection?</td>
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<td>iii) Schools?</td>
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<td>iv) Parks?</td>
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<tr>
<td>v) Other public facilities?</td>
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</tr>
</tbody>
</table>

Setting

Fire Protection Services

Fire protection for the project area is provided by the Kings County Fire Department (KCFD), which operates 10 fire stations and one headquarters office in Hanford with 88 full-time employees. The Fire Department responds to over 5,100 calls annually, averaging 14 calls daily (KCFD 2019).

The nearest KCFD fire stations to the project site are KCFD Station #10, located in Stratford approximately 2.5 miles east of the Aquamarine project site, and Station #9, located in Kettleman City approximately 12 miles south of the site. Response times from the two nearest stations would range from 4 minutes to 15 minutes depending on the location of the call within the Aquamarine site. Backup response would be provided by Station #7 (south Lemoore) and Station #5 (Armona), which would respond to a call from the site within the KCFD’s 20-minute rural response time goal. The KCFD maintains mutual aid agreements with the fire departments of Lemoore and Hanford, and also with the NAS Lemoore Fire Department and Santa Rosa Rancheria Fire (Kings County 2010e).

The KCFD’s other responsibilities include: review of building plans for compliance with fire safety requirements; emergency medical response; and preparation and implementation of the County’s emergency management plan. Each station conducts assessments of proposed industrial and business facilities to assure compliance with safety and design capacity requirements. Fire stations also handle weed abatement on a complaint basis (KCFD 2019).

The KCFD provides first responder emergency medical service to all County residents. This service does not include advanced life support (paramedic) or emergency transport, which is provided by an exclusive private contractor (currently American Ambulance). Kings County contracts directly with the ambulance company, while the Central California Emergency Medical Services Agency (CCEMSA) is responsible for ensuring adequate levels and quality of ambulance service the region. The ambulance services nearest to the Aquamarine site are located in Lemoore and Hanford.
The Potential Fire Hazards map of the Kings County General Plan Health and Safety Element (General Plan Figure HS-9) shows most of the Aquamarine project site and Gen-Tie corridor as being subject to “Little or No Threat” or “Moderate Threat,” while the nearest areas shown as being subject to “High Threat” are around the Shannon Ranch and near the segment of Nevada Avenue near the Fresno County line (Kings County 2009c). The Aquamarine project site and Gen-Tie corridor are not included in a Fire Hazard Severity Zone (FHSZ) as mapped by the California Department of Forestry and Fire Protection (CalFire 2007a, CalFire 2007b).

**Law Enforcement Services**

Law enforcement services in the project area are provided by the Kings County Sheriff’s Department (KCSD) from its headquarters at 1444 West Lacey Boulevard approximately 16 miles northeast of the project site. The Department currently has 148 sworn officers and 101 non-sworn personnel. The County is currently divided into six beat districts with five Sheriff’s substations located throughout Kings County. Each beat district has at least one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas. The KCSD has mutual-aid agreements statewide. The Department’s response time goal for priority emergency calls is 20 minutes (Kings County 2010e). The response time to the project site would be a maximum of 15 to 20 minutes, and would be quicker when the area deputy is on patrol nearby. The principal crimes committed in Kings County in 2017 were larceny, burglary, aggravated assault, motor vehicle theft, and weapons charges (CDOJ 2019).

The California Highway Patrol (CHP) provides traffic enforcement along State highways and County roadways within Kings County. The nearest CHP area offices are located in Hanford and Coalinga.

**Other Public Services and Facilities**

Other public services provided in the project area include schools, parks and recreation, libraries, and social services, among other things. The Aquamarine Solar Project and Gen-Tie Line would generate little or no demand for these public services and their related facilities.

**Environmental Evaluation**

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:**
**i) Fire protection?**

**Aquamarine Solar Project**

**No Impact.** Construction and operation of the Aquamarine Solar Project is not anticipated to result in an increase in demand of fire protection services leading to the construction of new or physically altered facilities.

**Fire Hazards During Construction**

During construction, there is a small risk of construction equipment and materials posing potential fire hazards. Construction of the solar facilities, substations, and power collection lines would involve the use of heavy construction equipment, vehicles, generators, and hazardous materials (e.g., fuels, lubricating oils, and welding materials), which pose potential fire hazards. The risk of fire would be primarily related to refueling and operating vehicles and equipment off internal driveways where dry vegetation could be ignited. Welding activities also have the potential to result in the combustion of vegetation, as would smoking by construction workers.

As discussed in section 2.2 Project Description, construction workers would receive training in fire safety and suppression in order to prevent fire and respond effectively if fire does break out. During solar facility construction, water trucks used for dust suppression would be available for suppression of small fires.

**Fire Hazards During Solar Facility Operation**

During solar facility operation, equipment such as transformers, inverters, and substation equipment would involve the use of oils (e.g., dialectic or mineral oils and lubricants) and fuels, which would pose potential fire hazards. Maintenance vehicles and panel washing trucks would travel among the solar arrays where low vegetation would be dry in summer and potentially combustible. Overhead power collection lines would pose a fire hazard in the event a conducting object comes in proximity to a line or in the unlikely event that a live-phase conductor (electrical wire) falls to the ground. Smoking by operational personnel would also pose a fire hazard.

The project would include a number of design and operational measures for fire prevention and suppression. The project would be constructed in accordance with the California Fire Code. Electrical equipment such as transformers and inverters would be placed on concrete foundation pads and housed in steel and concrete equipment enclosures, minimizing the risk of electrical sparks that could ignite vegetation in the event of equipment failure. All electrical equipment (including inverters) not located within a larger structure would be designed specifically for outdoor installation, and all electrical equipment would be subject to product safety standards. Portable carbon dioxide (CO\(_2\)) fire extinguishers would be mounted at the inverter/transformer pads throughout the project. Maintenance crews would regularly inspect facilities for reliability and safety.

The Aquamarine project would be required to comply with fire safety standards under Section 10-7 of the Kings County Code, under which the regulations of the National Fire Protection Association and the American Insurance Association are applied. The Fire Marshal would review the project plans to ensure compliance with all code requirements and standards. The Building Division of the Kings County Community Development Agency would ensure Fire Code requirements are met.
through the plan check process, building permit issuance, construction inspection, and issuance of certificate of occupancy once all of the work has been completed and the final inspection has been approved.

The approval of the Aquamarine Solar Project would be subject to conditions including compliance with the provisions of the Kings County Improvement Standards with respect to emergency vehicle access. As required by the Fire Department, all structures (including solar arrays) must be accessible by fire-fighting equipment and personnel via internal fire access driveways. These internal gravel driveways would consist of a durable dust-free (oiled) surface, in accordance with the Kings County Improvement Standards, which would inhibit the growth of vegetation. The Fire Department also requires minimum of 4 feet of separation between rows of solar modules to allow access by fire suppression personnel. The construction of the 20-foot-wide driveway following the perimeter of the site would act as a fire break between the site and off-site areas, thereby limiting the potential for a fire at the site to spread off-site. The project approval would also include a condition that all detailed project plans are subject to review and approval by the County Fire Marshal to ensure that potential fire hazards are adequately addressed.

As required in Mitigation Measures AG-1: Agricultural Management Plan, AG-2: Soil Reclamation Plan, and HYD-1: Stormwater Quality Protection, the remaining exposed soils over the entire site would be revegetated with native seed mix to prevent erosion and dust generation throughout the entire site, and to sustain continued agricultural production on the western portion of the site through sheep grazing, and also to protect on-site soils for future reclamation upon decommissioning. The vegetative cover would be kept low through mechanical means and also through sheep grazing activity which would reduce fuel load buildup and reduce the potential hazard from grass fires. As with all mitigation measures identified in this document, Mitigation Measures AG-2 and HYD-1 would be imposed as a condition of project approval.

In summary, although the project would result in an incremental increase in demand for Fire Department services, this increase is expected to be small and thus would not result in degradation of service levels or in the need for new or expanded facilities. Therefore, the Aquamarine Solar Project would result in no impact related to an increase in fire protection services that would necessitate the alteration or construction of fire stations or other infrastructure to combat fire.

**Gen-Tie Line**

**No Impact.** Construction and operation of the Gen-Tie Line is not anticipated to result in an increase in demand of fire protection services leading to the construction of new or physically altered facilities. Fire protection services to the Gen-Tie Line would be provided by the Kings County Fire Department, as well as CalFire and other fire departments in the area that participate in automatic aid or mutual aid agreements. During construction of the Gen-Tie Line, the contractors would be required to implement standard safety plans related to working with electrical equipment; however, medical services from the Fire Department may occasionally be called upon in the event of medical emergencies. Upon completion, the Gen-Tie Line would not introduce any new land uses or population to the area that would increase long-term demand levels for fire protection services.

In summary, although the Gen-Tie Line may result in a small increase in demand for fire protection and medical services, the increases are expected to be small and thus would not result in degradation of service levels or in the need for new or expanded facilities. Therefore, the Gen-Tie
Line would result in a no impact related to an increase in fire protection services that would necessitate the alteration or construction of fire stations or other infrastructure to combat fire.

**ii) Police protection?**

**Aquamarine Solar Project**

**No Impact.** Construction and operation of the Aquamarine Solar Project is not anticipated to result in an increase in demand of police protection services leading to the construction of new or physically altered facilities.

Law enforcement services to the Aquamarine solar facility would be provided by the Kings County Sheriff’s Department. During construction of solar facility, slow moving trucks could result in temporary congestion near the project entrances, and could pose a safety hazard due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. Any temporary traffic disruptions would involve coordination with the Sheriff’s Department. The temporary traffic hazards associated with construction of the Aquamarine project are discussed in section 4.17. Transportation. Any potential traffic hazard impacts would be minimized through implementation of traffic control measures specified in Mitigation Measure TR-1a. The traffic control measures required during construction may result in a minor temporary use of the Kings County Sheriff’s Department’s resources, but would have no impact in terms of necessitating new or expanded Sheriff’s Department facilities to maintain adequate service levels.

Once the Aquamarine Solar Project is completed and operational, calls for service from the solar facility are expected to be infrequent, primarily due to the comprehensive security measures included in the design and operation of the solar project. The design features for project security are described as follows. The perimeter of each project phase will be securely fenced and gated to prevent unauthorized access. Electronic surveillance equipment such as infrared security cameras and motion detectors will be installed around the solar facility. The installation and operation of these security features are intended to act as a deterrent to crimes such as theft and vandalism. These project security design features will be operationally integrated with the services of a private security company. The video feeds from the installed surveillance equipment will be transmitted in real time to the off-site security contractor for monitoring. In the event that the surveillance system detects a breach, a security representative would be dispatched to the site.

As such, it is expected that project operations would result in minimal demand on Sheriff’s Department operations and would not degrade service levels or result in the need for new or altered Sheriff’s Department facilities. Therefore, the Aquamarine Solar Project would result in a minor increase in demand for law enforcement services, and would have no impact in terms of necessitating new or expanded Sheriff’s Department facilities to maintain adequate service levels.

**Gen-Tie Line**

**No Impact.** Construction and operation of the Gen-Tie Line is not anticipated to result in an increase in demand of police protection services leading to the construction of new or physically altered facilities. Police protection services to the Gen-Tie Line would be provided by the Kings Sheriff’s Department and the California Highway Patrol. During construction, the Gen-Tie project may
require police services due to possible theft of construction equipment and/or vandalism that might occur during the construction period. Gen-Tie line construction may also require temporary partial closure of roadways, especially where conductors would be strung over public roadways. Deliveries by heavy transport trucks may also require traffic control measures. Any temporary road closures or major traffic disruptions would involve coordination with local law enforcement. The temporary traffic hazards associated with transmission project construction are discussed in section 4.17 Transportation. Any potential traffic hazard impacts would be minimized through implementation of the traffic control measures specified in Mitigation Measure TR-1b. The traffic control measures required during construction would result in a minor temporary use of Sheriff’s Department’s resources, and would have no impact in terms of necessitating new or expanded Sheriff’s Department facilities to maintain adequate service levels.

iii) Schools?

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** Neither the Aquamarine Solar Project nor Gen-Tie Line would include a residential component and thus will not result in the need for new or expanded school facilities. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact on schools. However, the Aquamarine project will pay a school mitigation fee, as mandated by State law for all commercial development.

iv) Parks?

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** Demand for parks and recreation is mainly generated by residential development. No permanent staff would be stationed at the Aquamarine Solar Facility or the Gen-Tie Line, and the few staff who would visit the solar facility and gen-tie to perform routine maintenance activities would be unlikely to seek out recreational activities while in the project area. As such, the Aquamarine Solar Project and Gen-Tie Line would not increase demand for parks and recreational facilities, and would have no impact in terms of necessitating new or expanded parks or recreation facilities to maintain adequate service levels.

v) Other Public facilities?

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** Neither the Aquamarine Solar Project nor Gen-Tie Line would generate demand for social services, courts, libraries, or other public services. As such, the Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of necessitating new or expanded facilities to maintain adequate service levels for other public services.
# REFERENCES – PUBLIC SERVICES

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
</table>
4.16 RECREATION

Would the project:

<table>
<thead>
<tr>
<th>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?</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>□</td>
</tr>
</tbody>
</table>

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?

<table>
<thead>
<tr>
<th>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?</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

Environmental 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?**

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Neither the Aquamarine project nor the Gen-Tie Line would include a residential component and thus would not result in substantially increased use of or demand for neighborhood or regional parks, or other recreational facilities. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of causing or accelerating physical deterioration of recreational facilities.

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?**

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Neither the Aquamarine project nor the Gen-Tie Line would include recreational facilities, and thus would not result in impacts associated with such facilities. The Aquamarine and Gen-Tie projects would not include a residential component or permanent staff, and thus would not result in increased demand for recreational facilities. As such, the Aquamarine Solar Project and Gen-Tie Line would have no impact related to construction or expansion of recreational facilities.
4.17 TRANSPORTATION

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?</td>
<td>□</td>
<td>□</td>
<td>■</td>
<td>□</td>
</tr>
<tr>
<td>b) Conflict with or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?</td>
<td>□</td>
<td>□</td>
<td>■</td>
<td>□</td>
</tr>
<tr>
<td>c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d) Result in inadequate emergency access?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Transportation Setting

Aquamarine Solar Project and Gen-Tie Line

State highways in the vicinity that serve the project area include State Route 198 (SR-198) located to the north, SR-41 located to the east, SR-269 located to the west, and Interstate 5 located to the southwest. The Kings County roads serving the project area include: Avenal Cutoff Road, which passes along the northwest Aquamarine site boundary; Laurel Avenue, which bisects the Aquamarine site from east to west, and; Nevada Avenue along which the Gen-Tie Line would run.

The nearest public use airports in the project area include those at Hanford, Coalinga, and Harris Ranch, all of which are at least 17 miles from the Aquamarine site. The airfield at Naval Air Station Lemoore (NASL) is located 6 miles north of the Aquamarine project site. There are 5 private airstrips in the project area, the nearest of are at the Shannon Ranch, 2 miles west of the Aquamarine site, and the Stone Land Company Ranch, located on the south side of Nevada Avenue opposite the Gen-Tie corridor.

The nearest public transit routes of the Kings Area Rural Transit (KART) are along SR-198 to the north and SR-41 to the east. The nearest existing bikeway runs along the Avenal Cutoff Road frontage of the Aquamarine site, and extends from SR-198 in the north to the Fresno County line to the south (KC 2010d)

Environmental Evaluation

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Roadway Facilities

Transportation policies and programs in Kings County are set forth in the Kings County 2035 General Plan Circulation Element which establishes Level of Service D as the minimum service level to be maintained on County streets and roadways (Kings County 2010d).
Fresno County has policies which establish Level of Service (LOS) D as the minimum acceptable level of service on urban roads, and LOS C on rural roads (Fresno COG 2014). It is the policy of the California Department of Transportation (Caltrans) to maintain a target LOS at the transition between LOS C and LOS D, while lower LOS is accepted in areas of existing congestion, such as urban highway segments (Caltrans 2002). The traffic generated by the project would conflict with the applicable LOS policies if it results in a degradation of Level of Service to lower than LOS C on a State Highway or a rural County Road in Fresno County, or lower than LOS D on a County Road in Kings County.

**Aquamarine Solar Project**

**Less-than-Significant Impact.** As is typical of all PV solar projects, the Aquamarine Solar Project would generate the greatest volume of traffic during the construction phases when substantial numbers or workers are onsite during site preparation, grading, panel installation, and electrical equipment installation for the project. The construction period is also when the greatest number of truck deliveries are made, including deliveries of grading and construction equipment, solar panels, racking systems, electrical equipment, gravel, asphalt, and concrete, among other materials.

**Construction Traffic**

Since the project would generate the highest traffic volumes during the construction phases, a screening level of analysis was conducted to determine if adverse impacts to roadway system performance would occur, even under temporary conditions during project construction. In order to evaluate worst-case conditions, the traffic generated during the peak construction periods was evaluated to represent project conditions. The peak period of construction activity would occur during a 13-week period when Phases 1 and 2 of construction would overlap (this peak period represents 12.5 percent of the total 104-week duration of construction). During this peak period, there would be 430 workers commuting to the project site daily, resulting in a total of 860 daily trips (see Table 2 for a summary of construction vehicle usage by construction phase). For purposes of analysis, it was assumed that no workers would carpool or use transit or shuttle buses.

Construction workers would arrive at the site prior to the 7 AM start time and depart the site between 3 and 4 PM. As such, few if any workers are expected to be on the roadway network between the peak commute periods of 7 to 9 AM or 4 to 6 PM. (Note: Mitigation TR-1a makes it a requirement that the generation of construction-related traffic be minimized during these peak commute periods.) Since project traffic generation during the AM and PM peak periods is therefore expected to be negligible, no evaluation of peak hour traffic impacts was warranted.

Project worker commute traffic was distributed to the roadway system in accordance with a gravity model that considered time and distance factors relative to regional population centers to determine directional trip assignments. The average daily truck traffic estimated for the peak construction period was similarly distributed according to place of origination for each type of delivery. In order to reflect the effect of larger trucks on highway capacity, all truck trips were multiplied by 1.5 to derive Passenger Car Equivalent (PCE) trips generated by trucks. Deliveries were also multiplied by two to reflect inbound and outbound trips.
Table 10, on the next page, shows the effect of project construction traffic on the surrounding roadway network. In order to establish Baseline traffic conditions on the study roadways for 2018, the existing count data for each roadway segment was increased by 1 percent per year from its latest count date. This growth rate is somewhat higher than the statewide increase in traffic volumes on State highways over the 10 year period from 2006 and 2016 (the latest period for which statewide data is available).

In general, the project-generated traffic would be low relative to existing daily traffic volumes on the affected roadways. Table 10 includes only those roadway segments that would be subject to 40 daily project-generated trips (or 20 round trips per day). All other roadway segments would have fewer than 40 daily trips added due to project construction traffic.

As shown in Table 10, none of the affected roadway segments would be subject a change in Level of Service, or an LOS impact. The most heavily affected roadway segment – Laurel Avenue near the central project entrance – would experience a 43 percent increase to daily traffic volumes during the 13-week period of peak construction activity at the project. However, since existing traffic volumes on Laurel Avenue are very low, this increase would not significantly affect roadway performance, which would remain at LOS A. The second most heavily affected roadway segment – Avenal Cutoff Road near the northwest project entrance – would be subject to a 8 percent increase in daily traffic volumes during the peak period of project construction. Other roadways in the vicinity would be subject to temporary increases of 0.2 to 5 percent in overall traffic volumes. The project traffic contributions would be lower during all other periods of construction (representing 87.5 percent of the total construction duration) on all affected roadways.

In summary, project construction traffic would not result in a reduction of service levels on any of the affected roadways, which would remain at LOS B on most roadways, and LOS C on two roadway segments. Thus all roadways affected by project construction traffic would continue to operate at LOS C or better, thus maintaining the County’s LOS standard of D as established in the General Plan Circulation Element, and also maintaining the LOS C standard applicable on State highways and Fresno County’s rural roads. Thus, the increment of traffic volume generated by the Aquamarine Solar Project during construction would represent a less-than-significant impact in terms of conflicts with Level of Service policies applicable to the affected roadways.

**Operational Traffic**

Once the solar facilities are operational, the project-generated traffic would become very light. No permanent staff would be stationed at the Aquamarine solar facility, although operations and maintenance contractors would visit the project on a regular basis to perform inspections, maintenance and repairs. Panel washing crews would work on the site up to four times per year for several weeks at a time, and sheep herders would be on site during the spring to manage sheep grazing in accordance with the project Agricultural Management Plan. There would also be occasional truck deliveries for replacement parts and other materials. On average, it is estimated that up to 10 daily round trips would be generated by the workers on any given day. Truck deliveries would be expected to occur intermittently during the year. The very low volume of worker and delivery truck traffic generated during project operations would have a negligible effect on the performance of the roadway system serving the project, and the impact of Aquamarine...
project operational traffic would be less than significant in terms of conflicts with Level of Service policies applicable to the affected roadways.

### Table 10

**Aquamarine Solar Project – Construction Traffic**  
*(Based on peak construction period when construction phases 1 + 2 overlap)*

<table>
<thead>
<tr>
<th>Roadway Segment</th>
<th>Baseline Traffic Conditions</th>
<th>Project Traffic Conditions</th>
</tr>
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<tbody>
<tr>
<td>--------------------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Avenal Cutoff Road</td>
<td></td>
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<tr>
<td>- b/n SR-198 &amp; Nevada/Jane</td>
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<td>6216</td>
<td>640</td>
</tr>
<tr>
<td>SR-198</td>
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<td></td>
</tr>
<tr>
<td>- b/n Avenal Cutoff &amp; SR-41</td>
<td>19,8009</td>
<td>19,998</td>
</tr>
<tr>
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<td>22,2009</td>
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</table>

1 Includes only roadway segments with >40 project-generated ADT (i.e., >20 round trips per day).
2 AADT = Annual Average Daily Trips (= existing traffic volumes on roadways and highways).
3 Existing AADT was increased by 1% per year from count year to Baseline Year (2018).
4 Agency abbreviations: KC = Kings County; CT = Caltrans; FC = Fresno County.
5 Sources: Kings County 2010d; Caltrans 2002; Fresno COG 2014.  
   (Note: Kings County Circulation Element does not define a capacity limit for LOS A for two-lane rural highways; therefore, the capacity limits for LOS A and LOS B are assumed to be 4,200 ADT for both.
6 Source: KCAG 2018.
7 Project Daily Trips: Average Day = Average daily trips generated during the peak construction period.
8 Minimum LOS Standards by Agency: Kings County = LOS D; Caltrans = LOS C; Fresno County = LOS D (urban), LOS C (rural).
9 Source: Caltrans 2019.
Decommissioning Traffic

As discussed in section 2.2 Project Description, the level of activity during decommissioning (or deconstruction) of the Aquamarine project is expected to be similar to the activity level during project construction. Thus the number transport vehicle trips required for off-haul of decommissioned materials is expected to be similar to the number of trips required to haul the materials to the site during construction. The number of workers required on-site is also expected to be about the same, while the use of construction equipment would be similar or a little less. For purposes of analysis, it is assumed that traffic generated during decommissioning would be the same as the traffic generated during construction, as shown in Table 10 above. As shown in the table, project-generated traffic volumes would be very low relative to current traffic volumes on the affected roadways, and levels of performance would not be adversely affected by the project decommissioning traffic. At the time of project decommissioning in 25 years, the long-term traffic forecasts for the affected roadways indicates that all roadways will be operating at acceptable service levels at that time (KCAG 2018, Fresno COG 2013). The temporary addition of relatively small volumes of traffic from project decommissioning would have a less than significant impact in terms of conflicts with Level of Service policies applicable to the affected roadways at the time of decommissioning.

In summary, the Aquamarine Solar Project would not conflict with any Level of Service policies established by any transportation agency with jurisdiction over roadways affected by project-generated traffic. Therefore, the Aquamarine Solar Project would have a less-than-significant impact in this regard.

Gen-Tie Line

Less-than-Significant Impact. During the 6-month construction period for the Kings County portion of the Gen-Tie Line, the work activities would be distributed along the Gen-Tie corridor, with various crews engaged in surveying, ROW clearing, access driveway construction, staging area preparation, tower foundation installation, tower assembly and erection, conductor installation, guard structure installation and removal, and site restoration. The construction of the Gen-Tie Line would involve truck trips for hauling equipment and materials to and from the construction sites, and also commute trips by construction workers.

Deliveries of tower steel, hardware, conductor spools, concrete, and equipment would occur throughout the construction period. The equipment and material deliveries would originate from various locations in northern and southern California, and concrete would be delivered from a ready-mix plant in the Coalinga area. Thus truck deliveries would come from I-5 in the west for regional access and then follow local highways and roads to reach the work sites along the gen-tie line.

Concrete would be delivered to tower sites by concrete mixer trucks for use in construction of the tower footings. As mentioned, it is expected that concrete would be supplied from an existing ready-mix plant located near Coalinga. It is estimated that an average of 125 cubic yards (cy) of concrete would be required at each monopole location. Given a concrete mixer truck capacity of 10 cy, an average of 13 concrete deliveries would occur at each tower site. For the 57 tower sites in
Kings County, there would be a total of 741 concrete deliveries over the 133-day construction period, or an average of 5.66 deliveries per day.

Deliveries of tower steel and other materials for tower installation would involve approximately 22 round trips by trucks for each tower. The 57 towers in Kings County would involve a total of 1,254 materials deliveries, or an average of 9.4 deliveries per day on the Kings County Gen-Tie segments. The combined deliveries of concrete and materials would average 15 deliveries per day, or 30 trips ends. To account for large vehicle size, the truck trips are multiplied by 1.5 to derive Passenger Car Equivalent (PCE) trips of 45 trips per day.

Construction workers would generate traffic in commuting to and from the work sites. The Gen-Tie project is expected to have a maximum workforce of approximately 59 construction workers on any given day. Most construction workers are expected to reside in urban centers in the region, which are largely concentrated along the State Route 99 corridor to the east and northeast of the Gen-Tie corridor. Assuming that all 59 workers would all commute solo, the peak traffic generated by construction personnel would be 59 AM trips and 59 PM trips, for a total of 118 daily trip ends.

The combination of daily average truck trips (i.e., 45 PCE trips) plus construction worker commute trips (i.e., 118 daily trips) would result in a total of 163 daily trips on average. These trips would be widely distributed throughout the roadway network. As mentioned, most truck trips would be from I-5 in the west, while most construction workers would commute from population centers to the east and northeast. Thus the truck delivery routes and commute routes would tend to not overlap, except near the construction staging area or the access points to the construction sites. Assuming all worker commute trips occurred during the peak AM and PM periods, the resulting increase in traffic volume would be less than one trip per minute. Truck deliveries would be distributed throughout the day, with an average of 5 PCE truck trips occurring during each peak period. Therefore, the effects of gen-tie construction traffic on roadways and intersections in the area would be minor.

The primary impact associated with Gen-Tie Line construction would be from slow moving construction trucks and the larger turning radii of the trucks compared to passenger vehicles. This may result in intermittent reductions in roadway capacity, but these effects would be temporary and would not result in a significant impact to the roadway service levels. Depending on conditions, restrictions may be placed on heavy truck and oversized vehicle deliveries during the AM and PM peak-hour commute periods. In addition, local transportation agencies may restrict truck traffic to specific haul routes. (See item ‘c’ below for further discussion.)

Once construction of the Gen-Tie Line is completed, the traffic generated during inspection and maintenance of the Gen-Tie Line would be negligible.

In summary, the traffic generated during construction of the Gen-Tie Line would be very light. This is due to the dispersed nature of gen-tie line construction, the relatively small number of truck and worker commute trips that would be generated, the short duration of construction activity overall and at each work site, and the broad distribution of construction traffic. Traffic generated during inspection and maintenance of the completed Gen-Tie Line would be negligible. Therefore, the construction and operation of the Gen-Tie Line would not conflict with any Level of Service policies applicable to the affected roadways, and the impact would be less than significant.
Transit, Roadway, Bicycle and Pedestrian Facilities

Aquamarine Solar Project

Less-than-Significant Impact. The Regional Bike Routes plan in the 2035 Kings County General Plan Circulation Element shows an existing bikeway on Avenal Cutoff Road that passes along the Aquamarine project frontage. The Aquamarine Solar Project would introduce new entrances along the Avenal Cutoff Road and Laurel Avenue frontages, which would increase potential interaction between bicyclists on the roadway and vehicles entering and exiting the project site. However, project egress will be controlled by stop signs, and sight-lines in all directions would be very good given the flat terrain and lack of visual obstructions. During project construction, the small increases in traffic congestion and hazard introduced by slow moving vehicles would be addressed through implementation of the traffic safety measures identified in Mitigation Measure TR-1a, which would also be expected to reduce potential traffic hazards to bicyclists. As such, the project would not pose a safety hazard to bicyclists or otherwise decrease the performance of the existing bikeway.

The nearest planned bikeways in the project vicinity are along Nevada Avenue between Avenal Cutoff Road and SR-41, and along Jackson Avenue between Avenal Cutoff Road and 18th Avenue. These planned bikeway segments are several miles from the project site and would not be directly affected by the project, and also would not be indirectly affected since little if any project-generated traffic would use those roadway segments. The project would not conflict with any adopted policies, plans, or programs regarding bicycle facilities, or otherwise decrease the performance or safety of bicycle facilities (Kings County 2010d).

There are no existing or planned public transit routes or pedestrian facilities in the project vicinity, so the project would not decrease the performance or safety of such facilities. The project would not conflict with any adopted policies, plans, or programs regarding transit or pedestrian facilities, or otherwise decrease the performance or safety of transit or bicycle facilities (Kings County 2010d).

In summary, the Aquamarine Solar Project would result in no potential conflicts with transit, bicycle, or pedestrian plans, policies, or programs, or otherwise decrease the performance or safety of such facilities. Therefore, the Aquamarine Solar Project would have a less-than-significant impact in this regard.

Gen-Tie Line

Less-than-Significant Impact. As mentioned above, there is an existing Kings County bike route along Nevada Avenue between SR-41 and Avenal Cutoff Road (Kings County 2010d). Since the Gen-Tie Line would run parallel to Nevada Avenue, small increases in localized traffic congestion and hazard may be introduced by slow moving vehicles during Gen-Tie construction. These potential safety hazards would be addressed through the implementation of the traffic safety measures identified in Mitigation Measure TR-1b, which would also be expected to reduce potential traffic hazards to bicyclists, transit vehicles, and pedestrians during construction. During operation, the Gen-Tie Line would have no impact on bicycle facilities. There are no existing or planned transit routes, or existing or planned pedestrian facilities, in the vicinity of the Gen-Tie Line.
In summary, the construction of the Gen-Tie Line would result in little or no potential conflicts with transit, bicycle, or pedestrian plans, policies, or programs, or otherwise decrease the performance or safety of such facilities. Therefore, the impact of the Gen-Tie Line in this regard would be less than significant.

\textbf{b) Would the project conflict with or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?}

This new section of the CEQA Guidelines was included in the comprehensive amendments to the State CEQA Guidelines which took effect on December 28, 2018 (OPR 2019). The referenced Guidelines Section 15064.3(b) sets forth revised criteria for analyzing transportation impacts of proposed projects, as required under AB 734. For land use projects, this section states that “vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact.” The purpose in applying vehicle miles traveled (VMT) as the analytical metric is to further the State’s long-term greenhouse gas reduction goals by reducing fuel consumption in the transportation sector, specifically through reductions in per capita VMT associated with new land use projects. The establishment of specific significance thresholds is left up to each lead agency to develop in the course of implementing corresponding amendments to its local CEQA guidelines. In the Technical Advisory issued by the Governor’s Office of Planning and Research (OPR) for guidance in implementing AB 734, the recommended significance threshold for residential projects is defined as VMT exceeding a level of 15 percent below regional VMT per capita, and for office and retail projects a significant transportation impact would occur if project-generated VMT that exceeds a level of 15 percent below regional VMT per employee (OPR 2018, pp. 15-16). OPR’s Technical Advisory does not address other land uses, and suggests that thresholds for other land uses be developed at the local level. As of this writing, Kings County has not established VMT significance thresholds for land use projects.

To address transportation impacts from small projects, the OPR Technical Advisory recommends the application of “screening thresholds” to identify when a project would be expected result in a less-than-significant transportation impact without conducting a detailed study. The Technical Advisory states that, in general, projects that generate fewer than 110 trips per day may be assumed to cause a less-than-significant transportation impact (OPR 2018, p.12).

The OPR Technical Advisory does not address the establishment of significance thresholds for construction VMT. However, Guidelines Section 15064.3(b)(3) states: “[f]or many projects, a qualitative analysis of construction traffic may be appropriate.”

Based on the requirements of CEQA Guidelines Section 15064.3(b), as elaborated upon by OPR in the corresponding Technical Advisory, the following significance thresholds for VMT are established for purposes of this analysis:

\textit{Construction VMT} – Significance is to be determined through a qualitative analysis that considers estimated construction VMT as compared with Countywide VMT, and also considers pre-project traffic conditions on the roadways that would be most affected by construction traffic.
Operational VMT – Any project that generates operational traffic volumes of less than the screening threshold of 110 trips per day is presumed to have a less-than-significant transportation impact. Any project that generates 110 daily trips or more shall be quantitatively evaluated for VMT impacts.

Aquamarine Solar Project

Less-than-Significant Impact. The potential traffic impacts associated with construction and operation of the Aquamarine Solar Project are discussed in turn below.

Construction and Decommissioning

The Aquamarine Solar Project would be constructed over a period of two years during which time construction traffic volumes would fluctuate depending on the construction phase. Based on the air quality analysis of the Aquamarine project by Illingworth & Rodkin (see Appendix B), the average VMT generated by all worker trips and truck deliveries during project construction is estimated to be approximately 21,359 miles per day. In comparison, the average VMT for Kings County in 2018 was 3,514,636 miles per day (Caltrans 2015). Thus, the VMT generated during construction of the Aquamarine Solar Project would be equivalent to 0.61 percent (i.e., less than 1%) of average daily VMT in Kings County. This very small increment in VMT would occur only during the relatively brief construction period of two years. As discussed under item ‘a’ above, the roadways that would be most affected by project construction traffic (i.e., roadways subject to 40 daily construction trips or more) would all continue to operate at well within their design capacities with the addition of project construction traffic and would not be subject to any change in Level of Service due to project construction, even during the peak period of construction activity. The traffic volumes generated during decommissioning would be similar to, or somewhat lower than, traffic volumes during construction. Since baseline volumes will likely be higher at the time of decommissioning, the VMT generated during decommissioning would likely be a smaller percentage of Countywide VMT at that time than during construction. Given that the most affected roadways have ample surplus capacity, it is anticipated that the roadways would continue to operate without capacity or level of service impacts.

In summary, the above qualitative analysis shows that the VMT generated by Aquamarine project construction and decommissioning would be very low compared to overall Countywide VMT, and would only occur temporarily during these periods. The project construction and decommissioning traffic would have a minor short-term effect on local roadways, which would all have substantial remaining traffic carrying capacity during the two-year project construction period. The greenhouse gas emissions from project construction and decommissioning would be relatively small, and the Aquamarine Solar Project would result in a substantial net benefit in terms of greenhouse gas emissions since it would offset emissions from a fossil-fueled generating plant of equivalent capacity (see section 4.9 Greenhouse Gas Emissions). Given the relatively low VMT generated during project construction and decommissioning, and considering that the Aquamarine Solar Project would help the State achieve its greenhouse gas reduction goals, and would thus advance the specific purpose of AB 734, the project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Therefore, the project construction and decommissioning traffic impact under this significance criterion would be less than significant.
Operations
As discussed under item ‘a’ above, traffic generated during project operations would be very light. No permanent staff would be stationed at the Aquamarine solar facility, although operations and maintenance contractors would visit the project on a regular basis to perform inspections, maintenance and repairs. On average, it is estimated that about 10 daily round trips (i.e., 20 trip ends or trips) would be generated by the workers on any given day. This is substantially below the screening threshold of 110 trips per day recommended by OPR’s Technical Advisory as the volume of daily trips that may be assumed to have a less-than-significant transportation impact. Therefore, the operation of the Aquamarine Solar Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and the impact under this significance criterion would be less than significant.

Gen-Tie Line

**Less-than-Significant Impact.** During the 8-month construction period for the Kings County portion of the Gen-Tie Line, the work activities would be distributed along the Gen-Tie corridor, with various crews engaged in surveying, ROW clearing, access driveway construction, staging area preparation, tower foundation installation, tower assembly and erection, conductor installation, guard structure installation and removal, and site restoration.

Based on the air quality analysis of the Aquamarine project by Illingworth & Rodkin (see Appendix B), the average VMT generated by construction of the Kings County Gen-Tie segment is estimated to be approximately 5,015 miles per day. In comparison, the average VMT for Kings County in 2015 was 3,514,636 miles per day (Caltrans 2015). The VMT generated during construction of the Aquamarine Solar Project would be equivalent to 0.14 percent (i.e., 1/700) of average daily VMT in Kings County. This very low VMT would occur over a brief 6-month construction period, and would mainly affect Nevada Avenue which is a very lightly traveled County road. Therefore, the construction of the Gen-Tie Line and would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and the impact under this significance criterion would be less than significant.

Once construction of the Gen-Tie Line is completed, the traffic generated during inspection and maintenance of the Gen-Tie Line would be negligible. Therefore, the operation of the Gen-Tie Line and would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and the impact under this significance criterion would be less than significant.

c) **Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

Aquamarine Solar Project

**Less-than-Significant Impact with Mitigation Incorporated.** The Aquamarine Solar Project would have driveway entrances on Avenal Cutoff Road and Laurel Avenue. These new entrances would result in turning movements in and out of the project site which would increase the potential for interaction with through traffic along these County roads. However, these project entrances would be designed in accordance with the Kings County Improvement Standards, and would be subject to
prior design review and approval by the Kings County Public Works Department. Project egress would be controlled by stop signs, and sight-lines would be very good in all directions given the flat terrain, absence of visual obstructions, and linear alignments of Avenal Cutoff Road and Laurel Avenue. Thus the potential traffic hazard resulting from the project would generally be small, particularly during project operations when the solar facility would generate very little traffic.

As discussed above, the volume of traffic generated by the project would be greatest during the construction and decommissioning phases. This would include regular deliveries of materials and equipment by large trucks. Slow moving trucks could result in temporary congestion near the project entrances, and could pose a safety concern due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. The implementation of the Mitigation Measure TR-1a below would reduce the potential impact from safety hazards due to construction and decommissioning traffic to a less-than-significant level.

**Mitigation Measure TR-1a: Traffic Safety Measures for Solar Project Construction.** As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department regarding construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic. Traffic measures that shall be implemented during construction and decommissioning activities include the following:

a. Construction traffic shall not block emergency equipment routes.

b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following:

   i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods.

   ii. Identify approved truck routes for the transport of all construction- and decommissioning-related equipment and materials.

   iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM).

   iv. Provide for farm worker vehicle access and safe pedestrian and vehicle access.

   v. Provide advance warning and appropriate signage whenever road closures or detours are necessary.

c. Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour.

Since the precise nature and timing of construction and decommissioning activities requiring the traffic safety measures set forth in Mitigation Measure TR-1a cannot be predicted as of this writing,
the details of the traffic safety mitigations will be determined by the County Public Works Department at the such time as the activities for which they are required are scheduled and the applicant’s construction contractor requests consultation regarding such activities.

**Gen-Tie Line**

**Less-than-Significant Impact with Mitigation Incorporated.** Gen-Tie Line construction would involve the use of slow moving construction vehicles, many of which would have large turning radii. Safety hazards could arise from abrupt changes in traffic flow speeds caused by slow moving vehicles or from large trucks having to cross oncoming traffic lanes to make turns into construction areas such as monopole installation sites and pulling and tensioning sites.

In summary, the movement of construction vehicles, equipment and materials within and over public roadways during Gen-Tie construction could result in traffic disruption and safety hazards to the traveling public. Unless properly managed, safety hazards arising from construction truck traffic would represent a potentially significant impact. With implementation of Mitigation Measure TR-1b below, the impact would be reduced to less than significant.

**Mitigation Measure TR-1b: Traffic Safety Measures for Gen-Tie Construction.** Prior to the start of construction activity on the Gen-Tie Line, the applicant shall prepare and implement a Traffic Management Plan (TMP). The TMP is to include, but not be limited to, the following provisions:

a. A description of work hours, designated haul routes, and any timing restrictions on hauling during peak traffic periods.

b. A description of traffic control measures such as flagging, warning signs, barricades, cones, and detours, including locations and timing of the measures.

c. A description of the process for providing advance notification to property owners who would be affected by private road closures, temporary installation of guard structures, planned nighttime construction, and other construction activities. The notification would specify the timing and nature of the activity affecting each landowner, and would include contact information for designated construction personnel responsible for public coordination.

d. A description of emergency services providers in the affected areas, along with provisions for notification of such service providers on the timing, location, and duration of construction activities, especially road closures and detours.

The Traffic Management Plan would be subject to review and approval of Kings County Public Works Department. This review would occur during the course of County encroachment permit application process. The California Highway Patrol and County Sheriff’s Department would also review the TMP prior to construction.

**d) Would the project result in inadequate emergency access?**

The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-41 and SR-198, and the secondary evacuation routes include Avenal Cutoff Road, Laurel Avenue and Kansas Avenue (Kings County 2010e).
Aquamarine Solar Project

Less-than-Significant Impact with Mitigation Incorporated. The Aquamarine Solar Project will have entrances on Avenal Cutoff Road and Laurel Avenue, both of which are County-designated emergency evacuation routes. These routes would remain operational through construction, and emergency access would not be limited by construction activities at the project site. As required under Mitigation Measure TR-1a, the applicant would be required to coordinate with the County Public Works Department regarding construction-related activities that may affect traffic on these roadways, and specifically to prevent blockage of emergency equipment routes.

The project entrances will connect to the internal system of driveways and aisleways to provide adequate emergency access throughout the project. The project plans will be reviewed by the appropriate County departments for conformance with all applicable fire-safety code and ordinance requirements for emergency access. Therefore, with the implementation of Mitigation Measure TR-1a, the project would result in a less-than-significant impact with respect to adequacy of emergency access.

Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. The construction of the Gen-Tie Line would involve the use of large and slow moving trucks and equipment that could result in traffic safety hazards. These trucks could also result in localized congestion which could affect the movement of emergency vehicles. Any potential for delays to emergency vehicles would be addressed through the implementation of the traffic safety plans as specified in Mitigation Measure TR-1b above. With mitigation, the potential for the construction of the Gen-Tie Line to result in inadequate emergency access or passage by emergency vehicles through the area would be minimized, and the impact would be less than significant.

The Gen-Tie Line would be well-served by a regional roadway network that includes several state highways including SR-198, SR-269, and SR-41, along with several major county roads in Kings and Fresno counties. Since the Gen-Tie Line would run alongside Nevada Avenue, emergency access would be readily obtained directly from the public roadway.

In summary, the potential impact of the Gen-Tie construction upon emergency access would be reduced to less than significant with the implementation of Mitigation Measure TR-1b. Also, since the emergency access to the Gen-Tie Line itself would be available directly from Nevada Avenue which would provide for adequate emergency response to the operating Gen-Tie Line. Therefore, the Gen-Tie Line would not result in inadequate emergency response, and the impact would be less than significant.
REFERENCES – TRANSPORTATION


4.18 TRIBAL CULTURAL RESOURCES

Would the project: | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant | No Impact |
---|---|---|---|---|

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native Tribe.

Introduction

Assembly Bill 52 (AB 52) provides protections for tribal cultural resources. As of July 1, 2015, all lead agencies approving projects under CEQA are required, if formally requested by a culturally affiliated California Native American Tribe, to consult with such tribe regarding the impacts of a project on tribal cultural resources prior to the release of any negative declaration, mitigated negative declaration (MND) or a notice of preparation (NOP) for an environmental impact report (EIR). Under PRC Section 21074, tribal cultural resources include site features, places, cultural landscapes, sacred places or objects that are of cultural value to a tribe that are eligible or listed on the CRHR or a local historic register or that the lead agency has determined to be a significant tribal cultural resource.

Tribal consultation is to continue until mitigation measures are agreed to, unless the tribe or the lead agency concludes in good faith that an agreement cannot be reached. In the case of agreement, the lead agency is required to include the mitigation measures in the environmental document along with the related Mitigation Monitoring and Reporting Program (MMRP) (see PRC Section 21084.3). If no agreement is reached, the lead agency must still impose all feasible measures necessary for a project to avoid or minimize significant adverse impacts on tribal cultural resources (PRC Section 21084.3).
Setting

A complete discussion of the cultural resources setting is provided in section 4.5 Cultural Resources. As discussed in section 4.5, archival research and reconnaissance of the Aquamarine project site and Gen-Tie corridor by Basin Research Associates indicated that no significant archaeological resources are present within the project area. The majority of the lands in the study area have been disturbed by agricultural activities, which may have disturbed or archaeological resources at or near the ground surface. However, it is possible that intact archaeological resources may be buried below the disturbed upper layer of soil. If so, the excavation associated with Aquamarine and Gen-Tie projects could expose as-yet undetected resources. It is also possible that human remains could be encountered as human remains have been associated with several of the prehistoric archaeological resources along the former Tulare Lake shoreline.

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or I a local register of historical resources as defined in Public Resources Code § 5020.1(k), or

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. To date, no National Register of Historic Places or California Register of Historical Resources eligible or listed historic properties/cultural resources, and no known ethnographic, traditional or contemporary Native American use areas and/or other features of cultural significance have been identified in or adjacent to the Aquamarine project site or Gen-Tie corridor.

The Native American Tribe that is culturally affiliated with the project area is the Santa Rosa Rancheria Tachi Yokut Tribe. On January 31, 2019, representatives of the Kings County Community Development Agency held a coordination meeting with representatives of the Cultural and Historical Preservation Department of the Santa Rosa Rancheria Tachi Yokut Tribe pursuant to AB 52. During the consultation meeting the tribal representatives stated that there are no known tribal cultural resources within the Aquamarine project site or Gen-Tie corridor, although there is a potential for discovery of previously unknown tribal cultural resources during site disturbance and construction of Aquamarine Solar Project and Gen-Tie Line. The tribal representatives provided the County staff with recommended mitigation measures for protection of tribal cultural resources, which have been incorporated in full in Mitigation Measures CUL-1 and CUL-2 in section 3.5 Cultural Resources. With the implementation of Mitigation Measures CUL-1 and CUL-2, the impact to tribal cultural resources would be reduced to less than significant.

Mitigation Measure: Implement MM CUL-1 and CUL-2.
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native Tribe.

Aquamarine Solar Project and Gen-Tie Line

**Less-than-Significant Impact with Mitigation Incorporated.** In the event that tribal cultural resources are discovered during project site disturbance that have not previously been evaluated for significance, the Kings County Community Development Agency will evaluate the significance of the resource in cooperation with the Santa Rosa Rancheria Cultural and Historical Preservation Department, through application of the criteria for eligibility for listing on the California Register of Historical Resources, as required under AB 52. With implementation of Mitigation Measures CUL-1 and CUL-2, impacts to such potential tribal cultural resources would be reduced to less than significant.

**Mitigation Measure: Implement MM CUL-1 and CUL-2.**

**REFERENCES – TRIBAL CULTURAL RESOURCES**


[Cultural Resources report is kept administratively confidential by Kings County Community Development Agency per Government Code Section 6254, subdivision (r) and Section 6452.10.]
4.19 UTILITIES AND SERVICE SYSTEMS

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<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
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<tr>
<td>a) Require or result in the relocation or construction of new or expanded water, wastewater treatment facilities or stormwater drainage, electric power, natural gas, or telecommunications, the construction or relocation of which could cause significant environmental effects?</td>
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<td>b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?</td>
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<td>c) 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?</td>
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<td>d) Generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste goals?</td>
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<td>e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</td>
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Setting

Aquamarine Solar Project and Gen-Tie Line

A comprehensive description of the utilities and service systems setting of the Aquamarine Solar Project and Gen-Tie Line is provided in the Draft PEIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which is incorporated into this document by reference pursuant to Section 15150 of the State CEQA Guidelines. The description of the overall utilities and service systems setting is found on pages 3.14-1 through 3.14-8 of the PEIR (WWD 2017b). A description of the specific conditions relevant to the Aquamarine Solar Project and Gen-Tie Line is provided below.

Water Supply

Agricultural water supply for crop irrigation in the project area is mainly provided from imported surface water deliveries provided by the Westlands Water District (WWD). Surface water supplies are typically augmented by groundwater pumping from agricultural wells located throughout the area. The average irrigation rate for agricultural lands within Westlands Water District is approximately 2.5 acre-feet per acre per year (WWD 2018). In the 872-acre northwest portion of the Aquamarine site (i.e., all project lands west of the 25th Avenue alignment), irrigation water for row crops is provided from surface water.
supplies, to the extent that they are available from year to year, and supplemented with well water as needed. There are two operating agricultural wells on the Aquamarine project site, including one located just inside the western boundary of the site, and the other located at the eastern site boundary just south of Laurel Avenue. There are no sources of potable domestic water at the project site. The 953 acres in the eastern portion of the Aquamarine site (i.e., all project lands east of the 25th Avenue alignment) are under the ownership of Westlands Water District. These lands have been retired from irrigated agriculture and as such do not receive imported surface water for irrigation.

**Wastewater Collection and Treatment**

The project site is not within or near an area served by a community wastewater collection and treatment system. For projects in rural areas of Kings County that include permanent on-site employees, the wastewater disposal needs are typically met by individual septic tank and leachfield systems which are designed, constructed, and operated in accordance with the requirements and standards of Kings County and the Regional Water Quality Control Board.

**Storm Water Drainage**

There are no storm drainage facilities in the project area. The existing network of irrigation canals and ditches in the project area receive some stormwater runoff from adjacent lands during intense or prolonged storm events. Under current conditions, rainfall at the Aquamarine project site percolates into the soil with little or no runoff leaving the site. The terrain of the project site is virtually flat, with a maximum gradient of 0.3 percent. During normal rain events, runoff from impervious surfaces would be absorbed by the soil and percolate into the groundwater basin. During more intense or prolonged storm events, the ground becomes saturated and relatively minor volumes of stormwater temporarily pond on the surface and gradually percolate into the ground, and some areas drain to adjacent canals and drainage ditches.

**Electric Power**

Pacific Gas and Electric Company (PG&E) is an investor-owned utility company that provides electrical service to the project site and most of Kings County, with the exception of a small area in the northeast corner of the County which is served by Southern California Edison (SCE). There are several electric lines that pass through the Aquamarine project site. These include the 70-kV Henrietta-Tulare Lake subtransmission line that runs through the site along the unimproved 25th Avenue alignment, and two 12-kv distribution lines, with one on the same pole line as the 70-kv line, and the other running along the south side of Laurel Avenue.

**Natural Gas**

The project area is within the service area of Southern California Gas Company (SoCalGas), although there are no natural gas distribution lines in the project area. A high pressure natural gas transmission line crosses the northwest portion of Aquamarine project site in a southwest to northeast direction. A spur transmission line branches off this main line and runs along the south side of Laurel Avenue to the community of Stratford.
Telecommunications

The project area is located within AT&T’s service territory for land based telephone service, and also includes internet and TV connections. Comcast Xfinity provides cable, internet and phone service in the project area. Wireless internet is available to the project area from Unwired Broadband.

Solid Waste

Solid waste collection and disposal service in Kings County is provided by the Kings Waste and Recycling Authority (KWRA). The KWRA was formed in 1998 by agreement between Kings County and the cities of Lemoore, Hanford, and Corcoran. Solid waste from the member jurisdictions is transported to KWRA Materials Recovery Facility in Hanford where wastes are separated for recycling, composting, or landfill disposal. Commercial solid waste is collected by private contract with licensed haulers (Kings County 2010a). Used construction and demolition material is accepted at several approved facilities in the region.

Non-recyclable materials are transferred to the B-17 Landfill Unit at the Chemical Waste Management, Inc. (CWMI) Kettleman Hills Facility located on SR-41 in Kettleman Hills approximately 13 miles south of the project area. The B-17 Landfill Unit has a maximum disposal rate of 2,000 tons per day, and currently receives an average of 1,350 tons per day. The total permitted capacity of B-17 Landfill Unit is 18.4 million cubic yards, with a remaining capacity of approximately 15.5 million cubic yards, as of January 2017. The facility’s estimated closure year is 2059, with the actual closure date depending on the rate of fill (CalRecycle 2017).

Environmental Evaluation

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment facilities or stormwater drainage, electric power, natural gas, or telecommunications, the construction or relocation of which could cause significant environmental effects?

Aquamarine Solar Project and Gen-Tie Line

Water Supply

During the construction and decommissioning phases, the Aquamarine Solar Project would use untreated groundwater obtained from an existing on-site agricultural well. During project operations, imported (untreated) surface water would be obtained from Westlands Water District for maintenance activities and panel cleaning. During construction, project operations, and decommissioning, drinking water would be provided by bottled water delivered by truck. Shortages of untreated well water or surface water supplies to meet project demands during construction, operations, or decommissioning are not currently foreseen. However, in the unlikely event that such unforeseen shortages may occur in the future, possibly in the event of a prolonged severe drought, the relatively small volumes of untreated water that would be temporarily required during the construction, operations, and decommissioning phases would be purchased from alternative sources and trucked to the site. Therefore, no new or expanded water treatment facilities are
planned or required for the project which could cause significant environmental effects. (See item ‘d’ below for a detailed discussion of water supply.)

During construction, the Gen-Tie project would require water for dust suppression at work sites and staging areas, and on access roads. The water would be obtained from agricultural wells or municipal water sources in the vicinity and transported in water trucks to the work sites and access roads. Drinking water for work crews would be provided by bottled water. Little or no water would be required during operation of the Gen-Tie facilities. Existing water supply sources would be adequate to provide the relatively small amount of water required for construction of the Gen-Tie Line, and no expansion of water facilities or additional water entitlements would be required. Therefore, no new or expanded water treatment facilities are planned or required for the Gen-Tie Line which could cause significant environmental effects.

**Wastewater Treatment**

The Aquamarine Solar Project will include an O&M building with sanitary facilities for workers who will regularly be on-site for routine inspection, maintenance, and repair tasks. These sanitary facilities will be connected to an adjacent septic tank and leach field system that will be designed and constructed as prescribed by a qualified registered professional engineer in accordance with applicable standards and requirements. The installation of the septic tank and leachfield system would not result in significant environmental effects.

During construction of the Gen-Tie Line, the sanitary needs of construction workers would be provided by portable chemical toilets that would be serviced by a private contractor. Operation of the Gen-Tie Line would involve periodic inspection and maintenance activities by workers visiting the sites, for which there would be no need for permanent wastewater facilities. As such, there would be no permanent wastewater facilities associated with the Gen-Tie Line.

**Stormwater Drainage**

No new stormwater drainage facilities are planned to be constructed for the Aquamarine Solar Project. Under current conditions, rainfall percolates into the soil with little or no runoff leaving the site. The terrain of the project site is virtually flat, with a maximum gradient of 0.3 percent, and the project will result in no substantial modification of existing site grades. The project will introduce very few structural elements with impervious surfaces that would impede direct percolation of rainwater into the soil. The equipment pads and small parking area would result in less than 1 percent impervious surface coverage of the site, with over 90 percent of the site retained in vegetated cover and 9 percent devoted to permeable gravel driveways. During normal rain events, runoff from impervious surfaces would be absorbed by the adjacent vegetated ground and percolate into the soil. During more intense or prolonged storm events, the ground would become saturated and relatively minor volumes of stormwater may temporarily pond on the surface and gradually percolate into the ground, as occurs under existing conditions. Due to the virtually level ground conditions, and the very minor introduction of impervious surfaces to the site by the project, the potential for stormwater to be mobilized and concentrated in sustained runoff flows is unlikely to occur. Therefore, the Aquamarine Solar Project would not require the construction of new stormwater drainage facilities. The Gen-Tie Line would not require the construction of new stormwater drainage facilities.
**Electric Power**

The Aquamarine Solar Project is itself a power generating facility; however, electric service from the existing PG&E system would be required for certain project phases. During construction, the project would receive service power from the existing electrical distribution lines that run through the site, and would also have backup generators available on site. During project operations, the solar facility would have service power available from PG&E when the project is not powered by on-site generation. During decommissioning, the service connections to PG&E’s system would remain in place until they are no longer needed. The installation and removal of electrical service connections to the Aquamarine project site would not result in significant environmental effects. The Gen-Tie Line would not require electric service during construction or operation.

**Natural Gas**

The Aquamarine Solar Project would not require the use of natural gas for power generation or other purposes. Likewise, the Gen-Tie Line would not require natural gas service.

**Telecommunications**

Telecommunications to the Aquamarine solar facility would be provided either by a local provider or via a microwave/satellite communications lattice tower at the O&M facility. The installation of telecommunications facilities at the project site would not result in significant environmental effects. The Gen-Tie Line would not require telecommunications service.

**Conclusion**

**Less-than-Significant Impact.** The Aquamarine Solar Project and Gen-Tie Line would not require or result in the relocation or construction of new or expanded water, wastewater treatment facilities or stormwater drainage, electric power, natural gas, or telecommunications, the construction or relocation of which could cause significant environmental effects; therefore, the impact would be less-than-significant.

b) **Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** The following evaluation of water supply for the Aquamarine Solar Project includes separate discussions of construction water and operational water.

**Project Construction**

As discussed in section 2.2 Project Description, it is estimated that construction of the Aquamarine Solar Project will require a total of 365 acre-feet of water, mainly for dust suppression and soil conditioning over the 2-year construction period. The average annual water demand for project construction would be 182.5 acre-feet per year (afy). It is anticipated that water for construction will be obtained from the existing on-site agricultural well near the western boundary of the project site.
Current groundwater pumping in the area varies substantially from year to year depending on availability of surface water deliveries of Central Valley Project (CVP) water delivered by the Westlands Water District (WWD). During years when WWD receives most of its CVP water allocation, groundwater provides a minor portion of irrigation requirements. During years of severe drought, like 2013 and 2014, groundwater pumping increases substantially to make up for shortfalls of surface water deliveries. The WWD has determined that the “safe yield” of the groundwater resource, or the average volume of groundwater that can be pumped annually within the WWD service area without lowering groundwater levels over the long term, ranges from 135,000 to 200,000 afy. The Water Supply Assessment (WSA), prepared in conjunction with this MND, conservatively assumed safe yield to be at the lower end of the range, or 135,000 afy. This is equivalent to approximately 0.24 afy per acre over the 568,000 irrigable acres within WWD’s service area (the WSA is contained in Appendix E of this document).

Over its 2-year construction period, the Aquamarine Solar Project would have an annual groundwater demand would be 182.5 afy, or 0.1 acre-feet per acre per year. This volume of groundwater pumping is considerably less than the 0.24 acre-feet per acre “safe yield” or the average annual pumping volume that can occur without lowering groundwater levels in the area. Therefore, groundwater supplies available at the site would be sufficient to meet the needs of construction. As such, the impact of project construction upon available water supplies would be less than significant.

As noted in section 2.2 Project Description, curtailment of groundwater pumping to meet the project demand for construction water is not currently foreseen. However, in the unlikely event that such unforeseen curtailment occurs, the relatively small volumes of untreated water that would be temporarily required during construction would be purchased from alternative sources and trucked to the site.

**Project Operation**

During project operation, non-potable water will be required for activities such as panel cleaning, watering sheep, washing and rinsing equipment, and other operational uses. As described in section 2.2 Project Description, the combined water requirement for all operational activities is estimated to total 32.01 acre-feet annually over the 1,825-acre project site.

Operational supplies will not be obtained from groundwater wells but will be provided by Westlands Water District (WWD) through its existing system of lateral pipelines for conveyance of imported surface water. Under the WWD’s Municipal and Industrial (M&I) Regulations, an applicant may apply for and receive up to 5 acre-feet of water for M&I use. The District has estimated that solar development requires 3-5 acre-feet per year per 160 acres. In order to provide for solar projects greater than 160-acres in size, the WWD has established an exception to M&I limit whereby solar development would be eligible to receive up to 5 acre-feet per year for each 160 acres developed. The estimated 32.01 acre-feet per year of operational water demand for the project is equivalent to 2.81 acre-feet per quarter section (160 acres). This is well within the 5.0 acre-feet of imported surface water per quarter section that the Aquamarine Solar Project is eligible to receive through WWD. Therefore, surface water entitlements will be sufficient to meet the project’s operational needs. As determined in the Water Supply Assessment contained in Appendix E, the available water supply is sufficient to meet project needs during normal, dry, and multiple dry years. As such, the impact of project operations upon available water supplies would be less than significant.
In the event that the project is periodically unable to obtain surface water supplies, such as during a severe prolonged drought, the project would be expected to obtain operational water from groundwater sources. The 32.01 acre-feet per year of operational water demand would be equivalent to 0.018 acre-feet per acre per year, which is far less than the safe yield of the groundwater basin of 0.24 to 0.35 acre-feet per acre per year. Therefore, the groundwater available to temporarily augment surface water supplies would be sufficient to meet the operational needs of the project. In the unlikely event that such backup groundwater supplies to the project would also be curtailed, the relatively small volumes of untreated water required for project operations would be purchased from alternative sources and trucked to the site. As such, the impact of project operations upon groundwater resources would be less than significant.

**Project Decommissioning**

Untreated water would be required during decommissioning, although the volume of water required is expected to be less than required during the construction phase. Since vegetative cover would be maintained on the site during deconstruction, there would be relatively little exposed soil that would require watering for dust suppression. Similarly, water would not be required for soil conditioning during grading. The source of water during decommissioning is expected to be from the existing on-site well near the western boundary of the project site. The total groundwater pumped during decommissioning is expected to be substantially less than the estimated 365 acre-feet required during project construction. Even assuming that water demand during decommissioning would be the same as during construction, this would represent an average volume of about 0.2 acre-feet per acre over the 1,825-acre project site. Assuming decommissioning would require one year or less to complete, this would result in a water consumption rate of 0.2 acre-feet per acre per year. Since this would be less than the safe yield of the groundwater basin of approximately 0.24 to 0.35 acre-feet per acre per year, the project water demands during decommissioning would not result in overpumping or exceedance of the safe yield of the groundwater basin.

As discussed for project construction above, curtailment of groundwater pumping to meet the project demand for water during the decommissioning phase is not currently foreseen. However, in the unlikely event that such unforeseen curtailment occurs, the relatively small volumes of untreated water that would be temporarily required during the decommissioning phase would be purchased from alternative sources and trucked to the site.

In summary, the groundwater and surface water supplies available for project construction, operation, and decommissioning are sufficient to meet the needs of the project without new or expanded entitlements to water. Therefore, the impact of the Aquamarine Solar Project upon available water supplies would be less than significant.

**Reasonably Foreseeable Future Development**

The water supply impacts associated with reasonably foreseeable development are addressed in section 4.21 *Mandatory Findings of Significance*, item ‘b’ (cumulative impacts). As discussed, there are a number of reasonably foreseeable cumulative solar projects in Kings County. With respect to water supply, each cumulative solar project would require water during construction and operation. The demand for water at each site would be highest during construction for purposes of dust control and soil conditioning. For most cumulative projects, construction water would be supplied by existing agricultural wells. It is estimated that construction water demand for each project would
be about 0.2 acre-feet per acre per year. In the groundwater basin beneath the project site, the safe yield has been determined to be about 0.24 to 0.35 acre-feet per acre per year. Therefore, even if the other cumulative projects in the vicinity were constructed concurrently with the Aquamarine project, the groundwater pumping rate would be within safe yield in each case, such that the cumulative impact of groundwater pumping during construction would be also less than significant.

The operational water supplies for each project would be mainly used for panel washing. As discussed in section 4.10 Hydrology and Water Quality, operational water demands for the proposed project are estimated to be approximately 0.02 acre-feet per acre per year, or about 10 percent of the construction water usage rate. Unlike the other cumulative projects, it is expected that the Aquamarine Solar Project’s operational demands would be met from imported surface water delivered through Westlands Water District, although there is a possibility that well water may be utilized as backup supply during times of drought when there may be shortages of imported water. Assuming that the cumulative projects in the project’s groundwater basin, including the Aquamarine project, all rely solely on well water for operational needs, the cumulative operational water demands of about 0.02 acre-feet per acre per year would be substantially below the safe yield of the aquifer of 0.24 to 0.35 acre-feet per acre per year. Thus, groundwater supplies would be available to serve reasonably foreseeable future development during normal, dry, and multiple dry years, without adversely affecting the sustainability of the groundwater basin. Therefore, the impact to water supplies from the operation of the Aquamarine Solar Project and other reasonably foreseeable future development would be \textit{less than significant}.

**Gen-Tie Line**

\textbf{Less-than-Significant Impact}. During construction, the Gen-Tie Line would require water for dust suppression at work sites and staging areas, and on access roads. The water would be obtained from agricultural wells or municipal water sources in the vicinity and transported in water trucks to the work sites and access roads. Drinking water for work crews would be provided by bottled water. Little or no water would be required during operation of the Gen-Tie Line. Existing water supply sources would be adequate to provide the relatively small amount of water required for construction of the Gen-Tie project. As discussed above, groundwater supplies would be available to serve reasonably foreseeable future development during normal, dry, and multiple dry years, without adversely affecting the sustainability of the groundwater basin. Therefore, the impact to water supplies from the construction and operation of the Gen-Tie Line and other reasonably foreseeable future development would be \textit{less than significant}.

c) \textbf{Would the project 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?}

**Aquamarine Solar Project and Gen-Tie Line**

\textbf{No Impact}. As discussed above, the wastewater from the Aquamarine Solar Project would be conveyed to an on-site septic tank and leachfield system for on-site treatment and disposal. Since the Aquamarine site is located in an area with a perched water table, it is designated by Kings County as an area requiring engineered septic systems. As such, the septic and leachfield system at
the Aquamarine project will be designed and constructed as specified by a qualified registered professional engineer, and subject to approval of the Kings County Building Official, which would ensure effective functioning of the septic and leachfield system and avoid impacts to groundwater quality. The Gen-Tie Line would include no permanent wastewater facilities. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact on the treatment capacity of a wastewater treatment provider.

d) **Would the project generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste goals?**

**Aquamarine Solar Project**

**Less-than-Significant Impact.** The development of Aquamarine Solar Project would temporarily generate construction waste during the development phase, and would generate solid waste during operation of the PV solar facility, and also during the decommissioning phase. The solid waste impacts during the construction, operational, and decommissioning phases of the project are discussed in turn below. [Note: The following discussion addresses non-hazardous waste only. Hazardous waste disposal is addressed in section 4.9 Hazards and Hazardous Materials.]

**Construction Phase**

During construction of the solar facility, the waste generated would primarily consist of non-hazardous waste materials such as packing containers and materials, waste lumber, wood pallets, scrap metal, glass and paper. (Since site clearing would involve mulching or plowing under of crop remnants, it is anticipated that minimal greenwaste would be generated.) Based on construction waste generation rates at a similar solar PV project in northern Los Angeles County, the construction of the Aquamarine Solar Project is estimated to generate approximately 26.5 cubic yards (cy) of construction waste per MW of installed generating capacity (LA County 2010, p. 4-51). [1 cubic yard (cy) of construction waste is equivalent to approximately 1 ton of construction waste (CalRecycle 2019a).] Thus construction of the 250 MW solar facility would generate approximately 6,625 tons (or cy), or 9.08 tons per day on average (over the 2-year construction period). Much of the construction waste materials would be reusable (e.g., wood pallets and packing crates), or recyclable (e.g., scrap metal, paper, glass), and doing so has been shown to be cost effective (CalRecycle 2019b). It is assumed that 65 percent of the construction waste would be recycled as required under the CalGreen Code (CBSC 2016). Thus approximately 2,319 tons (4.46 tons per day) of construction waste from the Aquamarine Solar Project would be disposed of at a Class III landfill. Assuming that all of the non-recycled waste would be hauled to the B-17 Landfill Unit at the Chemical Waste Management, Inc. (CWMI) Kettleman Hills Facility located in the Kettleman Hills, the 4.46 tons of daily construction waste generated by the project would represent about 0.3 percent of the current the daily average solid waste disposal (1,350 tons per day) at the B-17 Landfill Unit. With the addition of project construction waste, the total daily solid waste disposed at B-17 Landfill Unit would remain well below the 2,000 ton per day permitted limit. Additionally, the total 2,319 tons (or 2,319 cy) of non-recycled construction waste generated during the construction period would represent 0.015 percent of the remaining 15.5 million cy capacity of B-17 Landfill Unit. Both the daily disposal rate and the total construction waste generated by the project would represent small increases in solid waste accepted at the B-17 Landfill Unit.
Operational Phase

During operation of the Aquamarine Solar Project, the non-hazardous waste generated would include typical refuse generated by workers such as scrap metal and machine parts, broken or defective electrical components, oily rags, packing material from deliveries, paper, cardboard, plastic, empty containers, and miscellaneous solid waste. The solar facility operator would contract with a commercial waste collection service which would haul the waste to the Kings Waste and Recycling Authority Material Recovery Facility in Hanford for sorting and recycling and/or transport of the non-recyclable waste to a local landfill site.

Based on operational solid waste generation rates at a similar solar PV project in northern Los Angeles County, the Aquamarine Solar Project is estimated to generate approximately 0.9 cubic yards (cy) of solid waste per year per MW of installed generating capacity (LA County 2010, p. 4-53). [Approximately 4 cubic yards (cy) of uncompacted solid waste from commercial/industrial sources is equivalent to approximately 1 ton of municipal solid waste (USEPA 1997).] Upon full operation, the Aquamarine Solar Project would generate a total of approximately 225 cubic yards, or approximately 56.25 tons of non-hazardous solid waste per year. Assuming that at least 50 percent of the solid waste would diverted through recycling, the remaining 28.13 tons (112.5 cy) of uncompacted solid waste from the project would be disposed of at a Class III landfill per year. At the landfill, in-place compaction would reduce the volume by 66 percent, resulting in 38.25 cy per year of used landfill capacity (CalRecycle 2014). Assuming that all of the non-recycled waste would be hauled to the B-17 Landfill Unit at the CWMI Kettleman Hills Facility, the 28.13 tons of solid waste landfilled by the project annually would represent a small fraction of the solid waste disposed at the B-17 Landfill Unit, which currently receives an average of 1,350 tons per day, and which would remain well below the 2,000 ton per day permitted limit. Both the daily disposal rate and the total non-hazardous solid waste generated by the Aquamarine Solar Project would represent small increases in solid waste accepted at the B-17 Landfill Unit.

As discussed under ‘Setting,’ the B-17 Landfill Unit has a remaining capacity of approximately 15.5 million cubic yards, and is not anticipated to reach capacity until 2059. The total solid waste generated by operation of Aquamarine Solar Project over the 25-year life of the project that would be landfilled would be approximately 956 cy (assuming compaction and 50 percent diversion), or 703 tons. When combined with the 2,319 cy (or 2,319 tons) of construction waste generated during that period (assuming 65 percent diversion), the total landfilled solid waste from construction and operation of Aquamarine Solar Project would be about 3,275 cy (compacted), or 3,022 tons. This represents 0.02 percent of the total remaining capacity of the CWML, or approximately 1.51 days of permitted disposal at the B-17 Landfill Unit, and would not appreciably shorten its operating life.

Decommissioning Phase

Upon deconstruction of the Aquamarine Solar Project, it is expected that much of the equipment and fixtures, such as solar modules and racking, would be returned to the manufacturer for reuse or otherwise reused on the secondary market. Waste materials that are not salvaged for reuse would be shipped to the Kings Waste and Recycling Authority’s Materials Recovery Facility in Hanford, where recyclable materials would be removed. All remaining waste would then go to the B-17 Landfill Unit at the Chemical Waste Management Kettleman Hills Facility. The B-17 Landfill Unit has an approved capacity of 18.4 million cubic yards. As of January 2017, the B-17 Landfill Unit had a capacity remaining of approximately 15.5 million cubic yards, and its estimated closure date is 2059,
or about 40 years hence. Since the estimated life of the Aquamarine solar facility is 25 to 30 years, the landfill will have sufficient capacity to accept project-generated solid waste throughout the life of the project. Should this facility become unavailable prior to the time of project decommissioning, another equivalent facility will be utilized. All waste associated with decommissioning will be disposed of or recycled in accordance with applicable laws.

In summary, the Aquamarine Solar Project would not result in exceedance of the local landfill’s permitted daily disposal limit, and the facility has sufficient capacity to accept solid waste generated during all phases of the Aquamarine Solar Project, including throughout the operational life of the project. As discussed under item ‘e’ below, the Aquamarine project would comply with all solid waste reduction requirements and would not impair their attainment. Therefore, the Aquamarine project’s impact in terms of solid waste would be less than significant.

**Gen-Tie Line**

**Less-than-Significant Impact.** The construction of the Gen-Tie Line would generate small amounts of solid waste, which would mainly consist of scrap materials and debris. Waste materials would be salvaged for reuse or recycled to the extent practicable. Other non-hazardous construction materials would be disposed of at municipal landfills, such as the CWML facility in Kings County. During operation of the completed Gen-Tie Line, little or no solid waste would be generated. The small amounts of solid waste generated by construction of the Gen-Tie Line, and the negligible amount of solid waste generated by its operation, would have minimal effects on the remaining capacities of the landfills in the vicinity. As discussed under item ‘e’ below, the Gen-Tie Line would comply with all solid waste reduction requirements and would not impair their attainment. Therefore, the impacts of the Gen-Tie Line upon landfill facilities would be less-than-significant.

e) **Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**Aquamarine Solar Project and Gen-Tie Line**

**No Impact.** It is expected that all solid waste generated by the Aquamarine Solar Project and Gen-Tie Line would be disposed, recycled, reused, or otherwise reduced in accordance with all applicable local, state and federal regulations. Neither the Aquamarine Solar Project nor the Gen-Tie Line would require the development of new landfills, nor would they require existing landfills to be expanded. Therefore, the Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of compliance with management and reduction statutes and regulations related to solid waste.

**REFERENCES – UTILITIES AND SERVICE SYSTEMS**

Aquamarine Solar Project and Gen-Tie Line

Initial Study/Mitigated Negative Declaration

Kings County CUP 17-04

May 2019

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4.20 WILDFIRE

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<tr>
<th>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
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<td>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</td>
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<td>b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</td>
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<td>c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?</td>
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<td>d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?</td>
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Environmental Evaluation

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones would the project:

a) **Substantially impair an adopted emergency response plan or emergency evacuation plan?**

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Neither the Aquamarine Solar Project nor the Gen-Tie Line are in or near a state responsibility area or on lands classified as very high fire hazard severity zones. The map of Fire Hazard Severity Zones (FHSZ) in State Responsibility Area (SRA) for Kings County prepared by the California Department of Forestry and Fire Protection (CalFire) shows the project area as being within a Local Responsibility Area (LRA) (CalFire 2007a). The nearest areas mapped as being within the SRA are located southwest of State Route 33, approximately 18 miles southwest of the Aquamarine project site, and 12 miles from the west end of the Kings County segment of the Gen-Tie Line. The nearest area within the SRA that is zoned as Very High Severity on the FHSZ map are located in the Diablo Range at the western edge of Kings County, at least 20 miles from the Aquamarine project site and Gen-Tie corridor. Calfire’s map of Fire Hazard Severity Zones in Local Responsibility Area (LRA) for Kings County shows the project area as being “unzoned” for fire hazard. There are no areas within the Kings County LRA that are zoned as Very High Severity (CalFire 2007b). The Health and Safety Element of the Kings County General Plan includes a map of Potential Fire Hazards which shows project area as being subject to “little or no threat” (Kings County 2010e). Therefore, Aquamarine Solar Project and Gen-Tie Line would have no impact in terms of the risk of wildland fire in a State Responsibility Area.
mapped as Very High Severity, and would not impair an adopted emergency response plan or emergency evacuation plan.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Since neither the Aquamarine Solar Project nor the Gen-Tie Line are in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard severity zones, this significance criterion does not apply and there would be no impact.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Since neither the Aquamarine Solar Project nor the Gen-Tie Line are in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard severity zones, this significance criterion does not apply and there would be no impact.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Aquamarine Solar Facility and Gen-Tie Line

**No Impact.** Since neither the Aquamarine Solar Project nor the Gen-Tie Line are in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard severity zones, this significance criterion does not apply and there would be no impact.

REFERENCES – WILDFIRE

[http://frap.fire.ca.gov/webdata/maps/kings/fhszl06_1_map.16.pdf](http://frap.fire.ca.gov/webdata/maps/kings/fhszl06_1_map.16.pdf)
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<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severity Zones in SRA – Kings County (map). November.</td>
<td></td>
</tr>
<tr>
<td>Kings County 2010e</td>
<td>Kings County. 2010. 2035 Kings County General Plan – Health and Safety Element.</td>
<td><a href="http://www.countyofkings.com/home/showdocument?id=3118">Link</a></td>
</tr>
</tbody>
</table>
4.21 MANDATORY FINDINGS OF SIGNIFICANCE

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Does the project have 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Environmental Evaluation

a) Does the project have 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Aquamarine Solar Project and Gen-Tie Line

**Less-than-Significant Impact with Mitigation Incorporated.** As discussed in section 4.4 Biological Resources, the Aquamarine Solar Project and Gen-Tie Line could result in potentially significant effects to several species including San Joaquin kit fox, burrowing owl, and ground nesting birds. However, with the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3, these potential impacts would be reduced to less-than-significant levels. The Aquamarine Solar and Gen-Tie project would have no impact or a less-than-significant impact on all other species and biological communities.
As discussed in section 4.5 Cultural Resources, the Aquamarine Solar Project and Gen-Tie Line would result in potentially significant effects to historic and prehistoric archaeological resources, including human burials. However, with the implementation of Mitigation Measures CR-1 and CR-2, these potential impacts would be reduced to less-than-significant levels.

In summary, with the implementation of mitigation measures to be incorporated into the Aquamarine and Gen-Tie project, it is expected that the project would not have 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 a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history.

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.)

Less-than-Significant Impact with Mitigation Incorporated. This discussion considers the potential impacts of the Aquamarine Solar Project and Gen-Tie Line combined with the incremental effects of other approved, proposed and reasonably foreseeable projects in the vicinity. These cumulative projects comprise those included on Kings County’s April 2019 list of pending and approved solar projects. These cumulative projects are listed in Table 11, on the next page, and shown in Figure 10. It is noted that all of the projects on listed in Table 11 comprise solar PV generating facilities. Most other projects that have been proposed and approved in Kings County over the past several years have consisted solely of minor projects such as cell towers, or projects with temporary or infrequent operation (e.g., Kelly Slater’s Surf Ranch), or projects that are too far from the project area to contribute to any cumulatively significant effect (e.g., relocation of Baker Commodities facility east of Hanford), or projects for which development applications have been formally withdrawn (e.g., Quay Valley new community project). As such, these projects were not included on the list in Table 11 since there is no potential that they would contribute to a cumulatively significant impact associated with the Aquamarine Solar Project and Gen-Tie Line.

The approach to assessing the significance of a cumulative project impact is based on the provision of Section 15065 of the CEQA Guidelines which states that the effects of a project must be “cumulatively considerable” to be considered significant. CEQA requires a two-step analysis for cumulative impacts, with the first step resulting in a determination of the significance of a cumulative impact for each environmental topic, and the second step resulting in a determination of whether the project contribution is cumulatively considerable. An affirmative finding is required for both steps in order to conclude that a project impact is cumulatively significant.

The following is an evaluation of cumulative impacts by environmental topic area. This discussion is followed by a more general evaluation of the cumulative impacts of the currently proposed and approved projects when considered together with the long range cumulative impacts resulting from implementation of the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, which is considered by Kings County to be a probable future development under CEQA.
Aesthetics

Aquamarine Solar Project

The Aquamarine project and the other cumulative solar projects are generally located in areas with relatively low visual quality and no significant scenic resources in their vicinities. While the solar generating facilities would represent a visual change to the predominantly agricultural character of their settings, the low profile of the solar facilities would not be out of scale with their rural surroundings. Given also the very low number of visual receivers in the vicinities of the cumulative projects, the visual impacts resulting from each individual solar project would be less than significant.

Most of the cumulative projects are dispersed and not visible from common public viewpoints. In the vicinity of the Aquamarine project site, there are 10 other solar projects located around the intersection Avenal Cutoff Road and 25th Avenue. Of these, four projects have been constructed or partially constructed, including the Kent South, Orion, and Mustang solar projects, and Phase 1 of the Westside Solar Project. Two of the remaining solar projects, Mustang Two and American Kings, have been approved but not yet constructed, and the final four projects (Slate, Daylight Legacy, Solar Blue, and Chestnut) are pending approval. Upon full completion, all of these projects and the proposed Aquamarine Solar Project will occupy a combined area of about 15,040 acres. Overall, the low profile of the solar arrays would be not out of place in the rural setting. These projects would not be visible from any agricultural residences, the nearest of which are located over 0.25 miles east, 1.8 miles west, and 2.0 miles southwest of the combined project areas. (The nearest residence, located 0.25 miles east of the Slate Solar Project, is surrounded by almond orchards which would block views of this and any other solar projects in the vicinity.) The American Kings solar project is located 300 feet south of the nearest base housing at NAS Lemoore across SR-198. This residential community is essentially urban in character and is bordered by the busy SR-198 freeway corridor on the south. The introduction of the solar arrays to the visual setting, across the freeway corridor, would represent a visual change to the southern tier of homes at the base. However, given the low profile of the solar facilities and the existing urbanized character of the NAS Lemoore residential community, and the intervening freeway corridor, this visual change would not represent a significant aesthetic impact associated with the American Kings solar project. None of the other cumulative solar projects in the vicinity, including the Aquamarine Solar Project, would be visible from the NAS Lemoore base housing. As such, there would not be a cumulatively significant aesthetic impact upon the base housing from the cumulative solar projects. Some of the cumulative solar projects (American Kings, Slate, Mustang Two, Westside, and Aquamarine) would be visible from public views available along the nearby roadways, most notably Avenal Cutoff Road. Motorists would observe the low profile solar arrays alongside the roadway for several minutes while traveling through the area. The cumulative effect would not substantially degrade the existing visual character or quality of the area, which would continue to be rural and agricultural in nature. In summary, the incremental aesthetic effects of the cumulative projects would not combine to produce a cumulatively significant impact, and the project contribution would not be considerable.

All of the cumulative projects would incorporate minimum and non-intrusive lighting for security, and the solar modules at all of the cumulative projects would be non-reflective and non-glare producing. While several cumulative projects would be in proximity to each other, such as those referenced above, the combined lighting and glare from these projects would not be excessive.
### Table 11

**Pending, Approved, and Completed Solar PV Projects**

<table>
<thead>
<tr>
<th>Project</th>
<th>Acreage</th>
<th>Generating Capacity (MW)</th>
<th>Status (As of 1/31/19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun City</td>
<td>180</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Sand Drag</td>
<td>240</td>
<td>19</td>
<td>Constructed</td>
</tr>
<tr>
<td>Avenal Park</td>
<td>86</td>
<td>9</td>
<td>Constructed</td>
</tr>
<tr>
<td>CED Corcoran Solar 2</td>
<td>124</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>SPS Corcoran</td>
<td>228</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>American Kings (former GWF)</td>
<td>978</td>
<td>125</td>
<td>CUP Approved</td>
</tr>
<tr>
<td>Sunpower Henrietta (Riverwest)</td>
<td>836</td>
<td>136</td>
<td>Constructed</td>
</tr>
<tr>
<td>Kansas South</td>
<td>230</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Aurora</td>
<td>186</td>
<td>20</td>
<td>Pending</td>
</tr>
<tr>
<td>Kansas</td>
<td>200</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Mustang</td>
<td>1,422</td>
<td>160</td>
<td>Constructed</td>
</tr>
<tr>
<td>EDF</td>
<td>200</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Orion</td>
<td>200</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Kent South</td>
<td>200</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Kettleman</td>
<td>220</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>CED Corcoran Solar 3</td>
<td>138</td>
<td>20</td>
<td>Constructed</td>
</tr>
<tr>
<td>Hanford 12 (ImMODO)</td>
<td>19</td>
<td>3</td>
<td>Constructed</td>
</tr>
<tr>
<td>Westside Solar Project*</td>
<td>187</td>
<td>22</td>
<td>Partially Constructed</td>
</tr>
<tr>
<td>Lemoore 14 (ImMODO)</td>
<td>60</td>
<td>8</td>
<td>Constructed</td>
</tr>
<tr>
<td>2275 Hattesen (Renesola)</td>
<td>16</td>
<td>2</td>
<td>CUP Approved</td>
</tr>
<tr>
<td>Java Solar</td>
<td>96</td>
<td>15</td>
<td>CUP Approved</td>
</tr>
<tr>
<td>Mustang 2</td>
<td>2,459</td>
<td>150</td>
<td>CUP Approved</td>
</tr>
<tr>
<td>Alamo Springs</td>
<td>985</td>
<td>130</td>
<td>Pending</td>
</tr>
<tr>
<td>Westlands Aquamarine*</td>
<td>1,825</td>
<td>250</td>
<td>Pending</td>
</tr>
<tr>
<td>CED Corcoran Solar 3 (Modification)</td>
<td>17</td>
<td>3</td>
<td>CUP Approved</td>
</tr>
<tr>
<td>Slate</td>
<td>2,731</td>
<td>300</td>
<td>Pending</td>
</tr>
<tr>
<td>Daylight Legacy</td>
<td>2,103</td>
<td>300</td>
<td>Pending</td>
</tr>
<tr>
<td>Westlands Solar Blue*</td>
<td>1,975</td>
<td>250</td>
<td>Pending</td>
</tr>
<tr>
<td>Westlands Chestnut*</td>
<td>960</td>
<td>150</td>
<td>Pending</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>19,101</strong></td>
<td><strong>2,252</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Projects located within Westlands Solar Park.

Source: Kings County CDA.
Pending, Approved, and Completed Solar Projects

Figure 11

Source: Kings County Community Development Agency, April 2019
Therefore, the incremental lighting from the cumulative projects would not combine to result in a cumulatively significant impact, and the project contribution would not be considerable.

Gen-Tie Line

The monopoles in the tower line would constitute its dominant visual elements of the Gen-Tie Line. The towers are planned to consist entirely of tubular steel monopoles, which would range in height from 100 to 180 feet. Conductors would be strung between the towers which would typically be spaced at intervals ranging from 600 to 1,320 feet. The planned use of monopoles instead of lattice steel towers would substantially reduce the profile of the towers and their visual effects. The Gen-Tie Line would pass entirely through flat agricultural landscapes where scenic value is limited. The only residences within one mile of the Gen-Tie Line are the 2 dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue east of Avenal Cutoff Road. These dwellings are set back 200 feet from the gen-tie corridor at its nearest point, and would be visually screened from the Gen-Tie Line by a dense stand of existing mature landscaping trees in the front yard area of the ranch property. With the distance separation from the towers, and the screening of the conductors, and the utilization of narrow-profile monopoles, the Gen-Tie Line would not result in a substantial change to the visual character or quality of the setting of these residences. For the same reasons, the Gen-Tie Line would not result in a substantial change to the visual character or quality of public views along Nevada Avenue. Given the generally low visual quality of the Gen-Tie setting, and the low level of potential visual impact upon existing residences and public views along Nevada Avenue along the Gen-Tie corridor, the visual impacts associated with the Gen-Tie Line would be less than significant.

The only pending project that is in proximity to both the Gen-Tie Line and the two dwellings at the Stone Land Company Ranch is the Daylight Legacy Solar Project located on the north side of Nevada Avenue approximately 2.4 miles east of two ranch dwellings. Given the low profile of the solar facilities at the Daylight Legacy project, that project would not be visible from the two ranch dwellings and thus would have no visual impact upon the dwellings. The Daylight Legacy Solar Project would front onto Nevada Avenue for a distance of 1.5 miles, and would be visible along the roadside by passing motorists. Given the generally low visual quality of the Gen-Tie setting, and the low level of potential visual impact upon public views along Nevada Avenue along the Gen-Tie corridor, the combined visual impacts associated with the Gen-Tie Line and Daylight Legacy project would be less than significant. Therefore, the cumulative visual impact resulting from the Gen-Tie Line and other projects would not be significant, and the contribution from Gen-Tie Line would not be cumulatively considerable.

Agriculture and Forestry Resources

Aquamarine Solar Project

Most the cumulative projects would occupy agricultural lands that are either cultivated for row crops or used for grazing. Some of the cumulative sites, including the western half of the Aquamarine project site, are mapped as Farmland of Statewide Importance under the California Department of Conservation’s Farmland Mapping and Monitoring Program. Most of the cumulative projects would incorporate dry-land farming with sheep grazing as part of their operations, while one project would incorporate crop production on a portion of its site. At the end of their productive lives, all of the cumulative solar projects, including the Aquamarine Solar Project, would be decommissioned. All project operators would implement soil reclamation with financial
assurances to return the sites to their pre-project conditions in accordance with mitigation measures similar to MM AG-1 and MM AG-2, as set forth for this project in section 4.2 Agriculture and Forestry Resources. As such, none of the cumulative projects would result in the permanent conversion of Farmland to non-agricultural uses. Likewise, none of the cumulative projects would otherwise result in the conversion of Farmland to non-agricultural use. The incremental effects from the collective operations of the solar projects upon agricultural resources would not be cumulatively significant, and the project contribution would not be considerable.

Most of the cumulative projects, including the proposed project, are located in agricultural zoning districts that permit solar generating facilities as a conditionally permitted use. All of the cumulative projects meet the required County Development Code requirements for conditional use permits, and also the requirements for solar facilities in agricultural zones. Therefore, none of the cumulative projects would conflict with applicable agricultural zoning. As such, there would be no cumulative impact in terms of land use plans, policies, and regulations, and the project would make no contribution to such a cumulative impact.

Most of the cumulative projects, including the western half of the Aquamarine project, are subject to either Land Conservation contracts or Farmland Security Zone contracts under the Williamson Act. All of these projects would either initiate contract cancellation proceedings or would meet State and County principles of compatibility to enable solar generating facilities to occupy the contracted lands. All of the cumulative projects that elect to pursue the compatibility options would maintain sufficient on-site agricultural productivity to meet the State and County principles of compatibility under the Williamson Act. Therefore, these projects are expected to maintain active Land Conservation or Farmland Security Zone contracts for the life of the solar projects without conflicting with the Williamson Act. Therefore, none of the cumulative projects would individually result in significant impacts in terms of conflicting with the Williamson Act. As such, the cumulative impact in terms of conflicts with the Williamson Act would be less than significant, and project contribution would not be considerable.

In summary, the incremental impact of residual effects from the collective operations of the cumulative solar projects upon agricultural resources would not be cumulatively significant, and the project contribution would not be considerable.

With respect to forestry resources, there are no forest lands or lands zoned for forest land or timberland at or near any of the cumulative project sites. Therefore, the individual projects would have no impact on forest land. As such, there would be no cumulative impact on forest land and the project would make no contribution to such a cumulative impact.

**Gen-Tie Line**

Approximately 54 percent of the 8.7-mile Kings County segment of the Gen-Tie Line passes through Prime Farmland or Farmland of Statewide importance. The Gen-Tie Line would result in permanent disturbance only at the sites of the monopoles, each of which would result in the removal approximately 700 square feet of Farmland. The 30 monopoles planned on lands mapped as Farmland would result in a total displacement of 21,000 square feet (less than ½ acre) of Farmland. This would represent a less-than-significant impact to Farmland.
The cumulative projects that are located on Farmland would be required to restore the agricultural soils on their sites upon decommissioning. Thus each project would result in no permanent conversion of Farmland, and therefore would have a less-than-significant impact upon agricultural resources. The cumulative impact to Farmland would not be significant, and the contribution of the Gen-Tie Line would not be cumulatively considerable.

**Air Quality**

**Aquamarine Solar Project and Gen-Tie Line**

With respect to regional air quality, the Air District guidance states that any project that would individually have a significant impact on regional air quality (i.e., exceed significance thresholds for ROG or NOx) would also be considered to have a significant cumulative air quality impact. Project-specific emissions of ozone precursor pollutants (ROG and NOx) and PM10 were found to be less-than-significant for the proposed project, as discussed in section 4.3 Air Quality. The Air District guidance also states: “[a] Lead Agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located” (SJVAPCD 2015, p. 66). As discussed in section 4.3 Air Quality, under item ‘a’, the project would fulfill its share of achieving the Air District’s emission reduction commitments in the PM10 and Ozone attainment plans through its obligation to implement ISR emission reduction measures under Air District Rule 9510. Therefore, the project would fully comply with the applicable air quality plans and would not conflict with or obstruct their implementation. Therefore, the project contribution to cumulative regional air quality impacts would not be considerable.

Local air pollutants that are relevant include PM10 emissions and toxic air contaminants (TACs) from construction activity. Construction period PM10 emissions would be localized. As shown in Table 6b, the combined construction exhaust and dust emissions from the Aquamarine Solar Project would be less than the PM10 significance threshold of 15 tons with mitigation. Since the total PM10 emissions would be below the total PM10 significance threshold, construction period total PM10 emissions impacts would be less than significant for the Aquamarine Solar Project.

In the project vicinity, there are seven other solar projects that have been approved or are pending approval but have not yet been constructed. These include the Mustang Two project adjacent to the east, the Slate project adjacent to the northeast, the Westside Solar project (Phase 2) adjacent to the north, the American Kings project located about 0.5 miles north, the Daylight Legacy project located one mile southwest, the Westlands Solar Blue project adjacent to the south, and the Westlands Chestnut project located 0.5 miles south. Depending on construction schedules, the construction of the Aquamarine Solar Project could overlap with the construction of one or more of these nearby solar projects. Since construction of the three other projects within the Westlands Solar Park would not be constructed concurrently with the Aquamarine project, under a worst-case scenario, it is assumed that the four other nearby projects would be under construction at the same time as the Aquamarine project, and that the pace of construction and equipment usage would be same for the other projects as for the Aquamarine project. The total PM10 annual emissions from the Aquamarine project was calculated to be 1.78 tons (or 0.0071 tons per MW), after implementation of mitigation measures required by the Air District. The total electric power

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*Aquamarine Solar Project and Gen-Tie Line  
Kings County CUP 17-04  
Initial Study/Mitigated Negative Declaration  
May 2019*
generated by the five cumulative solar projects (including the Aquamarine project) would be 1,225 MW. Assuming the other projects would emit PM$_{10}$ at the same rate as the Aquamarine project, the total annual emissions from the five cumulative projects (including the Aquamarine project) would be 8.70 tons (i.e., 0.0071 tons/MW X 1,225 MW). With the addition of the PM$_{10}$ emissions from the Gen-Tie Line (i.e., 5.40 tons), the total cumulative PM$_{10}$ emissions would total 14.10 tons. Thus the cumulative PM$_{10}$ emissions from the five projects (including the Gen-Tie Line) would be below the 15-ton significance threshold for PM$_{10}$. Therefore, the cumulative PM$_{10}$ emissions would be less than significant, and the project’s contribution would not be considerable.

With respect to cumulative emissions of Toxic Air Contaminants (TACs), it is important to note that DPM concentrations diminish rapidly from the source. Pollutant dispersion studies have shown that there is about an 80 percent drop off in DPM concentrations at approximately 1,000 feet from the source (CARB 2005). Thus multiple sources of DPM emissions must all be proximate to a receptor to have an additive effect to DPM concentrations at the receptor site. Since the nearest sensitive receptors to the Aquamarine Solar Project are at least 1.3 miles from the nearest site boundary, most if not all DPM emissions from the project would disperse into the atmosphere before reaching the nearest sensitive receptor locations.

While the SJVAPCD does not have specific significance criteria for assessing cumulative health risks, the SJVAPCD significance criterion of an increase in cancer risk of more than 20 in a million persons from an individual facility or project over a 70-year lifetime for the maximally exposed individual can be used as a conservative measure of cumulative significance (SJVAPCD 2014b). This significance criterion is applied to individual projects where there is a potential for a significant health impact to nearby sensitive receptors. The use of this same threshold for cumulative TAC impacts is stringent compared to thresholds being considered elsewhere. For example, in preparing the updated draft CEQA Guidelines for the Bay Area Air Quality Management District, the BAAQMD presented substantial evidence in support of a cumulative TAC significance criterion of an increased cancer risk of more than 100 persons per million persons (BAAQMD 2009). This threshold applies to projects that are located within 1,000 feet of the proposed project. (The effects of projects outside this distance are only considered by lead agencies if they are large enough to have unique effects (e.g., ports or refineries)(I&R 2018)). To illustrate the 20 in 1 million criterion, the TAC impact associated with the construction of a 1 million square-foot commercial development (e.g., a large regional shopping center) would fall to well under the significance threshold (i.e., cancer risk would be less than 10 cases per million) at a distance of 300 feet from the project site (BAAQMD 2010).

Applying the 1,000-foot criterion to define the geographic scope of the cumulative TAC analysis, there are four solar projects within this distance from the Aquamarine site (i.e., Westside Phase 2, Mustang Two, Slate, and Westlands Solar Blue). The combined construction intensity (i.e., number of diesel emitting vehicles and equipment in operation) from these five solar PV projects (including Aquamarine) would be less than that of a regional shopping center. In addition, the nearest receptors that would be potentially subject to cumulative DPM emissions would be 1.3 miles from the Aquamarine Solar Project site, and at least 1.0 mile from the nearest of the other four cumulative projects. These distances are at least 18 times farther than the 300-foot distance that TAC concentrations in the shopping center example would fall to well below the significance threshold. It should also be considered that DPM would be emitted from solar projects only during their relatively brief construction periods (i.e., up to 3 years depending on project size), which is far less than the 70-year exposure time considered in health risk assessments for comparison to the significance threshold. Thus, it is not expected the cumulative effects would result in an increased
cancer risk above 20 in one million at the nearest sensitive receptor common to the cumulative approved and pending solar projects in the vicinity if the Aquamarine project. Therefore, the project contribution to the cumulative health risk impact would not be significant, and the contribution to the cumulative health risk impact from the Aquamarine Solar Project would not be considerable.

Regarding the Gen-Tie Line, there is one solar project that would be constructed in proximity to the Gen-Tie Line. The southern portion of the Daylight Legacy Solar Project could be under construction at the same time as the adjacent segment of the Gen-Tie Line. The only sensitive receptors in the vicinity are the two dwellings located at the Stone Land Company Ranch, which is located 2.5 miles west of the nearest point at which diesel exhaust would be generated by both the Gen-Tie project and the Daylight Legacy project. As discussed above, the Gen-Tie construction activity would progress relatively quickly from one monopole site to the next, so the duration of TAC emissions at any given location would be no more than two weeks. Similarly, heavy equipment activity at the southern end of the Daylight Legacy project would also be short in duration. Considering that TAC concentrations would likely be fully dissipated well short of the 2.5 miles to the nearest sensitive receptors common to both projects, and given the very brief exposure periods at the sensitive receptor locations, there is no potential that cumulative health risk would exceed the significance threshold of 20 additional cancer cases in one million. Therefore, the cumulative health risk impact associated with Gen-Tie Line construction would be less than significant and the project contribution to the cumulative health risk impact would not be considerable.

**Biological Resources**

**Aquamarine Solar Project and Gen-Tie Line**

The analysis in section 4.4 Biological Resources identified potential project-specific impacts to San Joaquin kit fox, burrowing owls, and nesting birds. Mitigation measures MM BIO-1, MM BIO-2, and MM BIO-3 are specified in the event potential impacts to these species are identified at the Aquamarine site or Gen-Tie corridor prior to project construction. The project area is not uniquely suitable for these species, and abundant habitat for these species is present on the agricultural lands of the region. In addition, all of the other cumulative projects would be subject to similar mitigation measures in the event these species appear on any of those sites prior to construction. Thus impacts to these species would be reduced to less-than-significant levels at each cumulative project site. The combined incremental less-than-significant effects from these projects would not result in a cumulatively significant impact to these species. Therefore, the cumulative impacts to these species would not be significant, and the project contribution would not be considerable.

As discussed in section 4.4, there is a potential cumulative impact to foraging habitat for Swainson’s hawk. As part of its biological assessment for the Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, conducted in 2017, LOA completed a comprehensive analysis of potential impacts to Swainson’s hawk foraging habitat associated with development of the WSP Master Plan area and all other approved, pending, and completed projects within a 10-mile radius of the WSP plan area. The analysis identified all known Swainson’s hawk nests that were previously observed during surveys by LOA or others. In 2018, LOA biologists conducted follow-up surveys to identify currently active nests. LOA biologists also reviewed and updated their detailed 2017 analysis of foraging habitat within a 10-mile radius of the WSP plan area and concluded that the abundant habitat that would remain after full development of the WSP plan area, and all other
cumulative projects (including projects proposed since 2017) within this 10-mile radius, would be more than sufficient to support all of the known Swainson’s hawk nests within this radius, with surplus capacity to support additional nesting pairs. (The full analysis is contained in Appendix D of LOA’s biological report, which is contained in Appendix C of this document).

LOA’s 2018 updated assessment began with an inventory of known Swainson’s hawk nests within a 10-mile radius of the project site. The study found that there are 36 documented nests within this radius, the nearest of which is over 7.5 miles from the Aquamarine project site.

LOA’s analysis of potential cumulative impacts to Swainson’s hawk foraging habitat employed a study methodology established by Estep Environmental Consulting (Estep), and which has been applied in similar studies on previous solar projects in Kings County. The first step in this analysis is to make a determination as to the amount of surplus foraging habitat available that is not considered to be required by existing Swainson’s hawks that are currently nesting in the area. Based on LOA’s application of Estep’s methodology, it was calculated that there is currently a surplus of 135,492 acres of suitable foraging habitat within the study area. (See LOA’s Biological Assessment in Appendix C of this document for a full description of the habitat calculations.)

In order to determine the potential cumulative impacts to foraging habitat, all of the pending, approved, and completed solar projects within the study area were identified and mapped. It was determined that the 23 cumulative projects (including the Aquamarine project) occupy a total of 34,583 acres within the study area (this includes the entire WSP plan area of 20,938 acres). For purposes of analysis, this entire acreage was conservatively assumed to comprise suitable foraging habitat, whereas the actual total would be less after subtracting acreage in tree crops and vineyards which provide little or no foraging value for Swainson’s hawks.

In order to determine if this cumulative loss of foraging habitat represented a significant cumulative impact, Estep established that a reduction of surplus habitat to less than 70 percent relative to pre-project conditions would represent a cumulatively significant impact (Estep 2012). As presented in LOA’s Biological Assessment (see Appendix C of this document), it was calculated that the cumulative projects would reduce the total surplus foraging habitat in the study area to 100,909 acres (i.e., 135,492 acre pre-project surplus minus 34,583 acres cumulative loss). This remaining acreage of surplus foraging area represents 74.5 percent of the pre-project total of surplus foraging area. Since the remaining surplus foraging acreage is greater than 70 percent of the pre-project surplus foraging acreage in the study area, the cumulative impact to the Swainson’s hawk foraging acreage in the study area was determined to be less than significant. Therefore, the cumulative impact on Swainson’s hawk foraging habitat would be less than significant, and the project contribution would not be considerable.

The Aquamarine project site and Gen-Tie corridor include no wetlands, jurisdictional waters, streams or riparian areas, and therefore the project would have no impact upon such features and would make no contribution to a cumulatively significant impact to such features.

None of the cumulative projects would conflict with an applicable habitat conservation plan or a natural community conservation plan. As such, there would be no cumulative impact in this regard, and the project would make no contribution to such a cumulative impact.
In summary, the cumulative impact to biological resources would be less than significant, and the project contribution would not be considerable.

Cultural Resources

Aquamarine Solar Project and Gen-Tie Line
The probability that any previously undiscovered cultural resources are present at any of the cumulative project sites is low. However, in the event that buried cultural materials are encountered during grading or excavation, all of the cumulative projects would be subject to mitigation measures similar to those identified for the Aquamarine Solar Project and Gen-Tie Line in MM CR-1 and MM CR-2 in Section 4.5 Cultural Resources. The implementation of these measures at each cumulative site would ensure that site-specific impacts to cultural resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a less-than-significant cumulative impact to cultural resources, and the project contribution would not be considerable.

Energy

Aquamarine Solar Project and Gen-Tie Line
As discussed in Section 4.6 Energy, the construction of the Aquamarine Solar Project and Gen-Tie Line would be subject to an array of regulatory requirements for the efficient use of fuel, waste reduction and diversion, and energy efficient building standards. These requirements would ensure that the Aquamarine and Gen-Tie projects and the other approved and pending projects would not result in the wasteful, inefficient, or unnecessary use of energy. Therefore, the cumulative energy impact would be less than significant, and the project impact would not be cumulatively considerable.

As is the case with the Aquamarine Solar Project, the objective of the other cumulative solar projects is to generate renewable solar energy in order to provide for the reduced statewide reliance on non-renewable fossil-fueled generation. The operation of the solar facilities would allow for the decommissioning of equivalent generation from natural gas fired power plants. The cumulative projects would consume a relatively small amount of electricity to operate lights and equipment, but this energy consumption would be negligible compared to the clean energy produced by the solar projects.

Geology and Soils

Aquamarine Solar Project and Gen-Tie Line
Potential impacts due to geologic and soils conditions tend to be highly localized and generally do not extend beyond the boundaries of a project, particularly in areas of level terrain such as the San Joaquin Valley. The cumulative projects would be subject to similar geologic and soils conditions and hazards as discussed for the Aquamarine Solar Project and Gen-Tie Line in section 4.6 Geology and Soils. While not all hazards would be present at all sites, or to the same degree, the potential hazards include seismic shaking, liquefaction, seismic settlement, and soil expansion, among other things. The vulnerability of each cumulative project to seismic and soil hazards would be subject to confirmation and detailed characterization through the completion of geotechnical investigations.
required prior to the development of each site. As is the case with the Aquamarine solar and Gen-Tie project, it is expected that the potential seismic and geologic hazards and any adverse soil conditions at the cumulative project sites would be mitigated through building code requirements and design recommendations of geotechnical engineers for each project. The specified soil engineering measures would be expected to mitigate or avoid all potentially hazardous geologic and soils conditions to less-than-significant levels at each site. While constructing the facilities to meet the seismic design criteria of the California Building Code would not completely eliminate the potential for damage during a major earthquake, it would reduce the potential impacts to public safety and property to less-than-significant levels at the cumulative projects. Given also the unlikelihood of geologic and soils hazards extending beyond the boundaries of individual project sites, the cumulative geologic and soils impacts would be less than significant. Therefore, any incremental hazards remaining at each cumulative site after mitigation would not collectively result in a cumulatively significant impact, and the project contribution would not be considerable.

With respect to paleontological resources, there is a low probability that any previously undiscovered paleontological resources are present at any of the cumulative project sites. However, in the event that buried paleontological resources are encountered during grading or excavation, all of the cumulative projects would be subject to mitigation measures similar to those identified for the Aquamarine Solar Project and Gen-Tie Line in MM GEO-1 in section 4.6 Geology and Soils. The implementation of these measures at each cumulative site would ensure that site-specific impacts to paleontological resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a less-than-significant cumulative impact to paleontological resources, and the project contribution would not be considerable.

Greenhouse Gas Emissions

Aquamarine Solar Project and Gen-Tie Line

As discussed in section 4.7 Greenhouse Gas Emissions, the project solar generating facilities comprise a renewable source of energy which will help displace an equivalent amount of existing fossil-based generation. The construction and operation of the Aquamarine project and Gen-Tie Line would generate some greenhouse gas emissions from fossil-fueled vehicles and equipment; however, these emissions would be more than offset by the avoided greenhouse gas emissions resulting from the Aquamarine project’s renewable electricity generation. Each of the cumulative projects also comprises a source of renewable solar energy, and collectively they would allow the avoidance of substantial existing fossil-fueled power generation. Therefore, the cumulative impact would not be adverse, and the project would make no contribution to an adverse cumulative effect.

Hazards and Hazardous Materials

Aquamarine Solar Project and Gen-Tie Line

Each of the cumulative sites, including the Aquamarine project site and Gen-Tie corridor, would be subject to similar hazards, including potential discharges of hazardous materials during project construction and operation, and potential hazards from existing environmental conditions that may be present from past activities at the sites. In general, most potential hazards would be highly localized and not likely to extend beyond individual project sites. Each cumulative project would be required to implement an approved Hazardous Materials Business Plan (HMBP) to address potential
hazardous events at the project, and also would be required to comply with all federal, state, and local laws and regulations regarding transport, handling, storage, and use of hazardous materials. Each cumulative project would also be required to identify potentially hazardous environmental conditions associated with historical uses of the sites through the preparation of Environmental Site Assessments, and each project proponent would be required by law to remediate or remove any identified contaminant sources from the site. The implementation of required plans and protocols relative to potential hazards and hazardous materials would reduce the associated impacts to less than significant levels at each project site. As discussed above, the impacts from hazards and hazardous materials would generally be confined to each project site and would not be given to accumulation with similar effects from other projects in the vicinity. Therefore, any incremental effects related to hazards and hazardous materials would not collectively result in a cumulatively significant impact, and the project contribution would not be considerable.

Hydrology and Water Quality

Aquamarine Solar Project and Gen-Tie Line

This discussion covers potential cumulative drainage and water quality impacts, water quality impacts, and groundwater supplies.

With respect to stormwater drainage, the Aquamarine project, Gen-Tie Line and the other cumulative projects have similar natural conditions like flat topography, semi-arid climate, and lack of natural drainage courses nearby. In addition, the solar projects would all maintain over 90 percent of their sites in permeable soil with vegetated cover. The Gen-Tie Line would result in a total of less than one acre of permanent coverage with impervious surfaces. Thus the small amount rainfall received at each site would tend to percolate into the ground, and would not tend to leave the site or result in off-site drainage impacts. Even under major storm conditions, any off-site runoff would likely be captured by one of the many irrigation canals or agricultural drainage ditches in the area. Thus even where cumulative projects are located in proximity to each other, there is virtually no potential for runoff from several sites to combine to result in downstream drainage impacts. Therefore, the potential cumulative stormwater drainage impacts would be less than significant, and the project contribution would not be considerable.

With respect to water quality, during the construction of each cumulative project, including the Aquamarine Solar Project and Gen-Tie Line, there is a potential for erosion of exposed soils and spills of hazardous materials that could have an adverse impact on surface water quality. However, each cumulative project would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) that would specify measures to prevent and control erosion and discharges of hazardous materials. These control measures would reduce the potential water quality impacts at each cumulative site to less-than-significant levels. As discussed above, the natural and built conditions at each project site would virtually eliminate the potential for stormwater runoff to leave the site. Therefore, the potential for polluted surface water to leave each site is also small, and the potential for polluted surface water from several sites to result in a collective water quality impact to downstream water bodies is negligible. Therefore, the cumulative impacts to water quality would be less than significant, and the project contribution would not be considerable.
With respect to **flooding and inundation**, neither the Aquamarine project site, the Gen-Tie corridor, nor the other cumulative project sites in the immediate vicinity of the project site and corridor are subject to flooding during a 100-year storm event, or to inundation in the event of upstream dam failure. While some cumulative projects located near the Kings River and east of the river may be subject to flooding and inundation, the proposed project site is subject to no impacts from these conditions, and therefore the project would **make no contribution** to any cumulative flooding impact.

With respect to **groundwater supplies**, each cumulative project, including the Aquamarine Solar Project and Gen-Tie Line, would require water during construction and operation. The demand for water at each site would be highest during construction for purposes of dust control and soil conditioning. For most cumulative projects, construction water would be supplied by existing agricultural wells or new wells. It is estimated that construction water demand for each project would be about 0.2 acre-feet per acre. In the groundwater basin beneath the project area, the safe yield has been determined to be about 0.24 to 0.35 acre-feet per acre per year. Therefore, even if the other cumulative projects in the vicinity were constructed concurrently with the Aquamarine and Gen-Tie project, and were all constructed in one year, the collective groundwater pumping rate is unlikely to exceed the safe yield of the aquifer. (Note: Since the larger solar projects would be constructed over a longer than one-year period, the average water consumption during construction would be less than 0.2 acre-feet per acre per year.) The operational water supplies for each solar project would mainly be used for panel washing, while little or no water would be required for operation of the Gen-Tie Line. As discussed in section **4.10 Hydrology and Water Quality**, operational water demands for the Aquamarine project are estimated to be approximately 0.02 acre-feet per acre per year, or about 10 percent of the construction water demand rate. Assuming that the other cumulative projects in the project’s groundwater basin rely solely on well water for operational needs, collective water demands would be well within the safe yield of the aquifer. Therefore, the cumulative projects would not substantially decrease groundwater supplies. In addition, since all of the cumulative projects would retain 90 percent or more of their site areas in permeable vegetated cover, the projects would not interfere substantially with groundwater recharge, individually or collectively, and would not impede sustainable groundwater management of the basin. Therefore, the cumulative impact to groundwater supplies would be less than significant, and the project **contribution would not be considerable**.

**Land Use and Planning**

**Aquamarine Solar Project and Gen-Tie Line**

As discussed in section **4.11 Land Use and Planning**, the Aquamarine Solar Project and Gen-Tie Line would not **physically divide an established community**, and would result in less-than-significant land use impacts to surrounding properties. Similarly, none of the cumulative projects would divide existing communities, and all of the cumulative projects would result in less than significant land use impacts upon surrounding properties. The cumulative incremental land use impacts resulting from the collective construction and operation of the cumulative projects would be less than significant, and the project **contribution would not be considerable**.

The **General Plan** land use designations applicable to all of the cumulative projects include solar generating facilities and transmission lines as allowed uses. All of the cumulative projects, including the Aquamarine project and Gen-Tie Line, are located either in agricultural **zoning** districts that...
permit solar generating facilities, or in commercial zoning districts that permit solar projects. All of the cumulative solar projects meet the required County Development Code requirements for conditional use permits for solar facilities, and the Gen-Tie Line is a permitted use in its agricultural zone. Therefore, none of the cumulative projects would conflict with any land use plans, policies, or regulations. As such, there would be no cumulative impact in terms of land use plans, policies, and regulations, and the project would make no contribution to such a cumulative impact.

**Mineral Resources**

**Aquamarine Solar Project and Gen-Tie Line**

None of the cumulative projects, including the Aquamarine Solar Project and Gen-Tie Line, would result in the loss of availability of a known mineral resource, and none would result in the loss of availability of a locally important mineral resource delineated on a local land use plan. As such, there would be no cumulative impact to mineral resources, and the project would make no contribution to such a cumulative impact.

**Noise**

**Aquamarine Solar Project**

As discussed in section 4.12 Noise, the nearest sensitive noise receptors to the Aquamarine project site are rural residences located 1.3 to 1.8 miles east of the Aquamarine site, and a group of 20 residences at the Shannon Ranch located 2.0 miles southwest. During project construction, noise generated by equipment and vehicles on the project site would not be audible at these locations. Operational noise levels would be lower. Traffic generated during construction would result in slight increase in ambient noise levels along the affected roadways, but the increased noise level would not be perceptible at the receptor locations. Noise levels generated by operational traffic would be lower.

During construction, noise generated at the Aquamarine project site could combine with noise generated by other projects in the immediate vicinity and result in cumulatively higher noise levels. However, there would be no sensitive receptors in the vicinity that would be affected by such higher cumulative noise levels. This would also be the case for cumulative traffic generated during construction and operational phases of the cumulative projects. Therefore, the incremental temporary and permanent noise levels resulting from the combined construction and operation of the Aquamarine Solar Project and other cumulative projects would be less than significant, and the project contribution would not be considerable.

Construction activities at the cumulative projects would result in ground vibration, although such vibration would not be detectable beyond the project boundaries of each project site. Therefore, the cumulative projects would result in no cumulative vibration impacts, and the Aquamarine project would make no contribution to such a cumulative effect.

**Gen-Tie Line**

The only residences within one mile of the Gen-Tie Line are the two dwellings at the Stone Land Company Ranch on the south side of Nevada Avenue east of Avenal Cutoff Road. These dwellings are set back 200 feet from the Gen-Tie corridor at its nearest point, and would not be subject to significant
noise or vibration impacts during Gen-Tie construction. The only pending project that is in proximity to both the Gen-Tie Line and the two dwellings at the Stone Land Company Ranch is the Daylight Legacy Solar Project located on the north side of Nevada Avenue approximately 2.4 miles east of two ranch dwellings. At this distance, the construction noise and vibration at the Daylight Legacy Solar Project would be imperceptible at the Stone Land Company Ranch residences, and thus would not combine with the noise and vibration from Gen-Tie construction to result in cumulatively significant noise or vibration impacts. Therefore, the cumulative temporary and permanent noise and vibration impacts resulting from the Gen-Tie Line and other projects would not be significant, and the contribution from Gen-Tie Line would not be cumulatively considerable.

**Population and Housing**

**Aquamarine Solar Project and Gen-Tie Line**

None of the cumulative projects, including the Aquamarine Solar Project and Gen-Tie Line, would include a residential component so they would not directly induce population growth in the area. The construction and operational workers for the cumulative projects are expected to be drawn from the existing labor pool in the region, and thus the cumulative projects would not indirectly result in population growth. Additionally, none of the cumulative projects would result in the extension of roads or utilities to lands not currently served by urban infrastructure, and thus would not induce unplanned urban development into the rural areas of the County. Therefore, the cumulative projects would result in no cumulative inducement of population growth in the area, and the project would make no contribution to such a cumulative effect.

None of the cumulative projects currently include housing on their sites. Therefore, the cumulative projects would result in no cumulative impacts with respect to displacement of housing or population, and the project would make no contribution to such a cumulative effect.

**Public Services**

**Aquamarine Solar Project and Gen-Tie Line**

Fire protection services for all cumulative projects, including the Aquamarine Solar Project and Gen-Tie Line, would be provided by the Kings County Fire Department. The potential demand for Fire Department services is expected to be very low at each cumulative project site. Thus the collective demand for Fire Department services is also expected to be low, and would not cumulatively result in the need for new or expanded facilities. Therefore, the cumulative impact to fire services would be less than significant, and the project contribution would not be considerable.

Police projection services for all cumulative projects, including the Aquamarine Solar Project and Gen-Tie Line, would be provided by the Kings County Sheriff’s Department. The potential demand for Sheriff’s Department services is expected to be very low at each cumulative project site. Thus the collective demand for Sheriff’s Department services is also expected to be low, and would not cumulatively result in the need for new or expanded facilities. Therefore, the cumulative impact to Sheriff’s services would be less than significant, and the project contribution would not be considerable.
There would be little or no demand for other County services from the project, or from any of the other cumulative projects, and would not cumulatively result in the need for new or expanded facilities. Therefore, the cumulative impact to other County services would be less than significant, and the project contribution would not be considerable.

**Recreation**

**Aquamarine Solar Project and Gen-Tie Line**

Since neither the Aquamarine Solar Project, Gen-Tie Line, nor any of the other cumulative projects would include housing or employees stationed at their sites, they would not result in increased use of existing recreational facilities. Neither the project nor any of the other cumulative projects would include recreational facilities in their projects, so there would be no adverse physical effects resulting from such facilities. As such, there would be no cumulative impact associated with recreational facilities, and the project would make no contribution to such an impact.

**Transportation**

**Aquamarine Solar Project**

As discussed in section 4.17 Transportation, the highest rate of traffic generation from the Aquamarine Solar Project would occur during the peak period of construction activity. As discussed, the traffic volumes generated during the peak construction period for the project would have a less-than-significant impact on the performance of affected roadways. All of the affected roadway segments have substantial unutilized traffic capacity, and most operate at Level of Service B while two segments operate at LOS C, well within acceptable service levels. During the peak construction period, the roadway segment that would be most affected by cumulative traffic (i.e., Avenal Cutoff Road) would be subject to traffic volume increases of up to 8 percent during the peak construction period for the Aquamarine project. The project traffic would not result in a change in Level of Service or a degradation of LOS to unacceptable levels on any affected roadway segment. Therefore, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, and the impact would be less than significant.

There are six other approved and pending projects in the immediate project vicinity that have not yet been constructed, and which are likely to utilize the same major access roads as the Aquamarine project, particularly Avenal Cutoff Road. (These projects include the Mustang Two, Slate, and American Kings projects, as well as other projects within Westlands Solar Park such as Westside Phase 2, Solar Blue, and Chestnut). For purposes of this cumulative analysis, it is assumed that: 1) none of the other projects in Westlands Solar Park would be constructed concurrently with the Aquamarine project; 2) the peak construction traffic from the remaining three projects would occur concurrently with the peak construction traffic from the Aquamarine Solar Project; 3) the pacing of construction at the other projects would be similar to the Aquamarine Solar Project’s pacing such that traffic volumes generated during the peak construction periods for the other nearby projects would be similar to those of the Aquamarine Solar Project, and; 4) the remaining three projects contribute volumes of peak construction traffic to Avenal Cutoff Road that are proportional to the traffic volumes from the Aquamarine Solar Project. Based on these worst-case assumptions, it was calculated that the cumulative traffic volume on Avenal Cutoff Road during the concurrent peak construction periods for the four cumulative projects (including Aquamarine) would increase by...
about 2,012 daily trips, representing a 32 percent increase over baseline traffic volumes. This traffic volume increase would not result in a degradation of service level on Avenal Cutoff Road, which would continue to operate at LOS C during the temporary period of peak construction activity, thus remaining well within acceptable service levels (see Table 10 in section 4.17 Transportation). All other roadways affected by cumulative traffic would be subject to smaller volume increases during peak construction periods and would also not be subject to change in service levels or degradation of LOS to unacceptable levels. During periods of less intensive construction activity and during project operations, the cumulative traffic generation would be substantially less. Therefore, the cumulative projects would not conflict with a program, plan, ordinance or policy addressing the circulation system; and thus the cumulative impact would be less than significant, and the project contribution would not be considerable.

With respect to traffic safety hazards, there is a potential for creation of hazardous driving conditions during the construction periods for the cumulative projects, including the Aquamarine Solar Project. Large slow moving trucks could result in temporary congestion near the project entrances, and could pose a safety concern due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. To address potential traffic safety hazards, all of the cumulative projects, including the Aquamarine project, would implement traffic control measures similar to those identified in MM TR-1a in section 4.17 for the Aquamarine Solar Project. These measures would reduce the potential traffic safety impacts at each cumulative project site to less-than-significant levels. The remaining incremental traffic safety effects resulting from collective truck traffic at the cumulative projects would be less than significant cumulatively, and the project contribution would not be considerable.

Gen-Tie Line

As discussed in section 4.17 Transportation, the traffic generated by the Gen-Tie Line would be very light during project construction and negligible during operation. During construction, the low traffic volumes are a function of the dispersed nature of transmission line construction, the relatively small number of truck and worker commute trips that would be generated at any given work site, the short duration of construction activity at each work site, and the broad distribution of construction traffic. During Gen-Tie operation, the inspection, maintenance and repair tasks would be infrequent and involve a small number of workers, vehicles, and equipment. Therefore, the cumulative traffic impact resulting from other cumulative projects and the Gen-Tie Line would be less than significant, and the contribution from the Gen-Tie Line would be not cumulatively considerable.

With respect to traffic hazards, it is expected that all of the cumulative projects, including the Gen-Tie project, would be required to prepare and implement traffic safety plans to manage construction traffic, similar to the plan required under Mitigation Measure TR-1b for the Gen-Tie Line. Therefore, the cumulative impact with respect to traffic hazards would be less than significant, and the contribution from the Gen-Tie Line would be not cumulatively considerable.

Tribal Cultural Resources

Aquamarine Solar Project and Gen-Tie Line

The probability that any previously undiscovered tribal cultural resources are present at any of the cumulative project sites is low. However, in the event that buried tribal cultural resources are
encountered during grading or excavation, all of the cumulative projects would be subject to mitigation measures similar to those identified for the Aquamarine Solar Project and Gen-Tie Line in MM CR-1 and MM CR-2 in Section 4.5 Cultural Resources. The implementation of these measures at each cumulative site would ensure that site-specific impacts to tribal cultural resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a less-than-significant cumulative impact to tribal cultural resources, and the project contribution would not be considerable.

**Utilities and Service Systems**

**Aquamarine Solar Project**

With respect to **water supply**, each cumulative solar project would require water during construction and operation. The demand for water at each site would be highest during construction for purposes of dust control and soil conditioning. For most cumulative projects, construction water would be supplied by existing agricultural wells. It is estimated that construction water demand for each project would be about 0.2 acre-feet per acre. In the groundwater basin beneath the project site, the safe yield has been determined to be about 0.24 to 0.35 acre-feet per acre per year. Therefore, even if the other cumulative projects in the vicinity were constructed concurrently with the Aquamarine project, and were all constructed in one year or less, the groundwater pumping rate would be within safe yield in each case, such that the cumulative impact of groundwater pumping would be less than significant, and the contribution from the Aquamarine project would be **not cumulatively considerable**.

The operational water supplies for each project would be mainly used for panel washing. As discussed in in section 4.10 Hydrology and Water Quality, operational water demands for the proposed project are estimated to be approximately 0.02 acre-feet per acre per year, or about 10 percent of the construction water usage rate. Unlike the other cumulative projects, it is expected that the Aquamarine Solar Project’s operational demands would be met from imported surface water delivered through Westlands Water District, although there is a possibility that well water may be utilized as backup supply during times of drought when there may be shortages of imported water. Assuming that the cumulative projects in the project’s groundwater basin, including the Aquamarine project, all rely solely on well water for operational needs, the cumulative operational water demands of about 0.02 acre-feet per acre per year would be substantially below the safe yield of the aquifer of 0.24 to 0.35 acre-feet per acre per year. Therefore, the cumulative impact to water supplies would be less than significant, and the project contribution would not be considerable.

With respect to **wastewater treatment**, the Aquamarine project and other large-sized cumulative projects would include O&M facilities with septic and leachfield systems for on-site disposal and treatment of domestic wastewater. These wastewater facilities would be subject to Kings County’s design and engineering requirements for septic systems, in accordance with their on-site soil and groundwater conditions. This would ensure that wastewater generated at the cumulative project sites would not result in water quality impacts. Therefore, the cumulative impacts with respect to wastewater treatment would be less than significant, and the project contribution would not be considerable.

With respect to **stormwater drainage**, neither the Aquamarine project nor any of the cumulative projects would include the construction or expansion of stormwater drainage facilities. Since over
90 percent of each project site area would be retained in pervious vegetative cover, the ability of each site to absorb and percolate rainwater through the surface soil would not be substantially altered with the addition of the solar facilities. Given also the flat topography and semi-arid conditions at the cumulative sites, the increase in the volume and velocity of stormwater runoff due to the projects would be negligible, so there would be no need to construct storm drainage systems for the projects. Therefore, no cumulative impacts would result from the construction or expansion of storm drainage systems, and the project would make no contribution to such impacts.

The total solid waste that would be generated and landfilled by the Aquamarine Solar Project during construction and the operational life of the project would be approximately 3,275 cubic yards (compacted) or 3,036 tons. Since the Aquamarine project represents 11 percent of the total power generation capacity of all of the cumulative projects listed in Table 1, the total cumulative solid waste generation by the cumulative projects would be roughly 9 times the project rate, for a cumulative total of 29,475 cy, or 27,324 tons. This would represent about 0.2 percent of the total remaining landfill capacity at the B-17 Landfill Unit of the Chemical Waste Management, Inc. (CMWI) Kettleman Hills Facility of 15.5 million cy, or the equivalent of 20 days of solid waste disposal at the current daily disposal rate of 1,350 tons at the B-17 Landfill Unit. Thus the total landfilled solid waste generated by the cumulative projects over their lifetimes would shorten the remaining 40-year life of the landfill by about 20 days. Additionally, the combined daily solid waste generation rate by cumulative projects (including Aquamarine) would be about 3.3 tons per day (including construction waste); therefore, the cumulative solid waste generation would not cause the amount of solid waste received at the landfill to exceed the 2,000 ton per day permitted limit. Thus the cumulative impact on solid waste disposal and landfill capacity would be less than significant, and the project contribution would not be considerable.

Gen-Tie Line

As discussed in section 4.19 Utilities and Service Systems, the water supply requirements for the Gen-Tie Line would be very small during construction and negligible during operation. Similarly, wastewater disposal needs during construction would be handled by portable toilets during construction, and would be nil during operation. The Gen-Tie Line would have very minor effects in terms of stormwater runoff during construction, and negligible effects during operation. The solid waste generation would also be very minor during construction and negligible during operation of the Gen-Tie Line. Given the very small effects on utilities and service systems by the Gen-Tie Line, these effects would not combine with the less-than-significant cumulative impacts described above for the Aquamarine project to result in a cumulatively significant impact. Therefore, the cumulative impacts on utilities and service systems would remain less than significant, and the contribution of the Gen-Tie Line would not be cumulatively considerable.

Wildfire

Aquamarine Solar Project and Gen-Tie Line

With respect to wildfire, neither the Aquamarine project site, Gen-Tie corridor, nor any of the cumulative projects is located in or near state responsibility areas or on lands classified as very high fire hazard severity zones. As such, the Aquamarine, Gen-Tie and other approved and pending projects would have no cumulative impact under this criterion, and the contribution of the Aquamarine Solar Project and Gen-Tie Line would not be cumulatively considerable.
Program-Level Cumulative Impacts Associated with the Westlands Solar Park Master Plan

As discussed in section 2.4 Related Projects, the Aquamarine Solar Project is located within the Westlands Solar Park (WSP), a master planned solar complex covering approximately 20,938 acres in west-central Kings County. The WSP Master Plan and Gen-Tie Corridors Plan was prepared by the Westlands Water District (WWD) to provide policy guidance for the reuse of retired farmlands owned by WWD, which comprise approximately half of the Master Plan area. In compliance with State CEQA Guidelines Section 15168, the WWD prepared a Program EIR (PEIR) (SCH No. 2013031043) which addressed the potential environmental impacts associated with future solar development under the WSP Master Plan and Gen-Tie Corridors Plan (WWD 2017b). The Draft PEIR also addressed the potential impacts associated with the planned Gen-Tie corridor extending from the WSP to the Gates substation to the west, which is required for the transmission of WSP solar generation to the State electrical grid. On January 16, 2018, the WWD Board of Directors certified the PEIR under CEQA and approved the WSP Master Plan and Gen-Tie Corridors Plan as a WWD policy document.

Since the WSP Master Plan and Gen-Tie Corridors PEIR evaluates the overall impacts resulting from full development of the Westlands Solar Park, it serves as a first-tier CEQA document for this MND, and has been incorporated into this document by reference. The impact analysis in the PEIR provides an evaluation of the cumulative impacts of WSP buildout taken by itself, and also includes and evaluation of the long-term cumulative impacts associated with the WSP buildout combined with other cumulative development. To summarize, the PEIR concluded that the cumulative impacts of solar development under the WSP Master Plan would be less than significant, and also that the combined effects of WSP development combined with the effects of the cumulative projects would be less than cumulatively significant, and that the contribution from each individual future solar project within WSP, and from the WSP as a whole, would not be considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Aquamarine Solar Project and Gen-Tie Line

Less-than-Significant Impact with Mitigation Incorporated. The ways in which people can be subject to substantial adverse effects from projects include: potential exposure to significant levels of local air pollutants; potential exposure to seismic and flooding hazards; potential exposure to contamination from hazardous materials; potential exposure to traffic hazards, and; potential exposure to excessive noise levels. The risks from most of these potential hazards would be avoided or reduced to less-than-significant levels through compliance with existing laws, regulations, or requirements that are intended to protect human health and safety. In other instances, the potential impacts to humans would be avoided or reduced to less-than-significant levels through mitigation measures identified in this document. With the implementation of these measures to address potential impacts, it is expected that the Aquamarine Solar Project and Gen-Tie Line would not have the potential to result in significant effects which will cause substantial adverse effects on human beings, either directly or indirectly.
REFERENCES – MANDATORY FINDINGS OF SIGNIFICANCE

http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Proposed%20Thresholds%20of%20Significance%20Dec%2007%2009.ashx

http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/CEQA_Construction_Screening_Approach.ashx


BEFORE THE KINGS COUNTY PLANNING COMMISSION
COUNTY OF KINGS, STATE OF CALIFORNIA

IN THE MATTER OF CONDITIONAL USE ) RESOLUTION NO. 19-02
PERMIT NO. 17-04 )
RE: Westlands Aquamarine Solar Project ) RE: 24999 Laurel Avenue, Stratford, CA

WHEREAS, on March 31, 2017, Westlands Aquamarine Solar, LLC., filed Conditional Use Permit No. 17-04 to construct, operate, maintain, and decommission the Aquamarine Solar Project; and

WHEREAS, the application was determined to be complete on May 13, 2019; and

WHEREAS, approval of a conditional use permit constitutes a “lease, permit, license, certificate, or other entitlement for use”, and is therefore a “project” pursuant to the California Environmental Quality Act, Public Resources Code Section 21000, et seq. (“CEQA”) and the CEQA Guidelines, California Code of Regulations Section 15000, et seq.; and

WHEREAS, as the agency primarily responsible for carrying out or approving said Project, the County of Kings assumes the role of lead agency pursuant to CEQA; and

WHEREAS, on May 17, 2019 the County published a notice of intent to adopt a mitigated negative declaration in The Hanford Sentinel and filed said notice with the Kings County Clerk, said notice indicating that the initial study/mitigated negative declaration (“IS/MND”) would be available for public review starting on May 17, 2019 and ending on June 17, 2019, with a hearing of the King County Planning Commission to consider said IS/MND to be held on September 9, 2019; and

WHEREAS, on May 17, 2019, the County provided the IS/MND to the State Clearinghouse for distribution to State agencies for their review beginning May 17, 2019 and ending on June 17, 2019; and

WHEREAS, the Community Development Agency of the County of Kings is the custodian of the documents and other materials that constitute the record of the proceedings upon which the Planning Commission’s decision is based, and the Kings County Government Center, Engineering Building No. 6, 1400 W. Lacey Boulevard, Hanford, CA 93230 is the location of this record; and

WHEREAS, on September 5, 2019 the Kings County Community Development Agency recommended that the Initial Study/Mitigated Negative Declaration be approved for the proposal; and

WHEREAS, on September 5, 2019 the Kings County Community Development Agency staff notified the applicant of the proposed recommendation on this project; and
WHEREAS, on September 9, 2019 this Commission held a duly noticed public hearing to receive testimony from any interested person.

NOW, THEREFORE, BE IT RESOLVED that this Commission finds that in order to approve this permit, the Commission is required to make the following findings pursuant to Section 1707 of the Kings County Development Code:

1. The proposed use is consistent with the General Plan.
2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the California Environmental Quality Act (CEQA).
3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or (b) there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.
4. The proposed conditional use complies with all applicable standards and provisions of this Development Code and the purposes of the district in which the site is located.
5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties, or improvements in the vicinity.
6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.
7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.
8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.
9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

With regard to these required findings, this Commission finds that:

1. The proposed use is consistent with the General Plan.

Finding: The proposal conforms with the policies of the Kings County General Plan, specifically:

A. Figure LU-11 of the 2035 Kings County General Plan designates this site as Exclusive Agriculture 40-Acre Minimum (eastern 754 acres), and General Agriculture 40-Acre Minimum (western 1,071 acres).

B. Page LU-13, Section III.A.1. of the “Land Use Element” of the 2035 Kings County General Plan states that agricultural land use designations account for a vast majority of the County’s land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General agriculture 20-Acre Minimum, General Agriculture 40-Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service business.
These designations preserve land best suited for agriculture, protect land from premature conversion, prevent encroachment of incompatible uses, and establish intensity of agricultural uses in manner that remains compatible with other uses within the County. The development of agricultural services and produce processing facilities within the Agricultural areas of the County shall develop to County Standards.

C. Page LU-13, Section III.A.1 of the “Land Use Element” of the 2035 Kings County General Plan states that the AX designation is applied around NAS Lemoore and its flight paths to reduce potential conflicts between military jet aircraft operations and surrounding land uses. Areas subject to potential military aircraft noise and safety issues are designated AX to reduce the number of residences and to preserve priority agricultural lands from encroachment by incompatible uses.

D. Page LU-27, Section IV.B of the “Land Use Element” of the 2035 Kings County General Plan states that Agricultural Open Space is the most extensive environmental category that displays the rural agricultural nature of the county. The agricultural land use designations (Limited Agriculture, General Agriculture 20 Acres, General Agriculture 40 Acres, and Exclusive Agriculture) are used to define distinct areas of agricultural intensity and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station. The physical development of agricultural properties is regulated and implemented by the Zoning Ordinance, in which the zone districts have the same designations: Limited Agriculture (AL-10), General Agriculture (AG-20 and AG-40), and Exclusive Agriculture (AX) are used. The minimum parcel size in the Exclusive Agriculture area is 40 acres. (Note: Zoning Ordinance No. 269.69 was repealed and replaced when Development Code No. 668 was adopted on March 3, 2015, and became effective on April 2, 2015.)

E. Page LU-38, LU Goal B7 of the “Land Use Element” of the 2035 Kings County General Plan states that community benefiting non-agricultural uses remain compatible within the County’s Agriculture Open Space area, and are supported for their continued operation and existence.

F. Page LU-38, LU Policy B7.1.3 of the “Land Use Element” of the 2035 Kings County General Plan states power generation facilities for commercial markets shall be allowed and regulated through the Conditional Use Permit approval process, and include thermal, wind, and solar photovoltaic electrical generating facilities that produce power. Hydroelectric and cogeneration facilities shall also be regulated as conditional uses except as follows (Kings County 2010):

(1) The installation of hydroelectric generating facilities, with a capacity of 5 MWs or less, in connection with existing dams, canals, and pipelines shall be regulated as permitted uses, subject to issuance of a site plan review that is categorically exempt pursuant to Section 15328 of the CEQA Guidelines.

(2) The installation of cogeneration equipment with a capacity of 50 MWs or less at existing facilities shall be regulated as permitted uses, subject to issuance of a site plan review which is categorically exempt pursuant to Section 15329 of the CEQA Guidelines.
G. Page RC-50, RC Objective G1.2 of the “Resource Conservation Element” of the 2035 Kings County General Plan seeks to promote the development of sustainable and renewable alternative energy sources, including wind, solar, hydroelectric and biomass energy.

H. Page RC-50, RC Policy G1.2.2 of the “Resource Conservation Element” of the 2035 Kings County General Plan encourages and supports efforts to develop commercial alternative energy sources in lower priority agricultural lands within Kings County, when appropriately sited.

I. Page RC-50, RC Policy G1.2.4 of the “Resource Conservation Element” of the 2035 Kings County General Plan establishes the requirement to coordinate the siting of alternative energy facilities within the Exclusive Agriculture (AX) Zone District with the Naval Air Station Lemoore to ensure such facilities will not have the potential to create a hazard for aircraft (e.g. reflective solar panels).

As discussed in the IS/MND, the PV solar panels installed at the Aquamarine project site would not produce light or glare that would pose a hazard to flight operations at NAS Lemoore.

J. Page RC-51, RC Policy G1.2.7 of the “Resource Conservation Element” of the 2035 Kings County General Plan requires commercial solar and wind energy systems to be reviewed as a conditional use permit pursuant to the procedures of the Kings County Zoning Ordinance. It should be noted that the Kings County Zoning Ordinance has been replaced by the Kings County Development Code (Ordinance No. 668), which was adopted by the Kings County Board of Supervisors on March 3, 2015, and became effective on April 2, 2015.

2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the California Environmental Quality Act (CEQA).

**Finding:** Approval of Conditional Use Permit No. 17-04 (Westlands Aquamarine Solar, LLC) is in compliance with the requirements of the California Environmental Quality Act (CEQA). The proposed use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity. An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for this project.

As provided by CEQA Guidelines Section 15168, the subject IS/MND on the Aquamarine Solar Project is a tiered CEQA document which was prepared as a subsequent CEQA document to the Program EIR (PEIR) on the Westlands Solar Park (WSP) Master Plan and Gen-Tie Corridors Plan (SCH No. 2013031043) which was certified under CEQA by the Westlands Water District (WWD) Board of Directors on January 16, 2018. The PEIR addressed the potential environmental impacts associated with future solar development within the WSP Master Plan area, and also addressed the potential impacts associated with the planned gen-tie corridor extending from the WSP to the Gates substation to the west, which is required for the transmission of WSP solar generation to the State electrical grid. The PEIR concluded that all of the potential impacts associated with solar development under the WSP Master Plan, along with the implementation of the Gen-Tie Corridors Plan, could be avoided or reduced to less-than-significant levels through the implementation of mitigation measures identified in the PEIR. As such, no significant and
unavoidable impacts were identified in the PEIR, and no Statement of Overriding Considerations was required for approval of the WSP Master Plan and Gen-Tie Corridors Plan by WWD.

The PEIR was prepared in close coordination with the staff of the Kings County Community Development Agency (CDA), in recognition of the County’s role as the Responsible Agency for the approval of Conditional Use Permits (CUPs) for individual solar projects to be developed within the WSP Master Plan area. (Under CEQA Guidelines Section 15052, a Responsible Agency may assume the role of Lead Agency if it finds that further environmental documentation is required under CEQA in conjunction with a subsequent project-specific approval within its purview.) The PEIR incorporated all revisions requested by the Kings County CDA with the express purpose of making the PEIR consistent with County policies and practices, and thus facilitating the ability of the Kings County Planning Commission to adopt subsequent CEQA documents (Supplemental EIRs or MNDs) that would be tiered from the certified PEIR.

The Aquamarine Solar Project comprises a specific solar project under the WSP Master Plan and is consistent with the Master Plan. Pursuant to CEQA Guidelines Section 15150, the subject IS/MND incorporates by reference the certified PEIR, which can be electronically accessed at https://wwd.ca.gov/news-and-reports/environmental-docs/. The Kings County Planning Commission has duly considered the contents of the certified PEIR and found it to provide complete program-level environmental review for the Aquamarine Solar Project, and has found the subject IS/MND to be consistent with the certified PEIR.

The proposed project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring & Reporting Program (MMRP) attached to the Planning Commission Resolution for this project as Exhibit “A.” The IS/MND reflects the Planning Commission’s independent judgment and analysis.

3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.

**Finding:** The IS/MND did not identify any potentially significant environmental effects that cannot be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-02.

4. The proposed conditional use complies with all applicable standards and provisions of the Kings County Development Code and the purposes of the district in which the site is located.

**Finding:** Article 4, Section 407, Table 4-1, lists commercial solar photovoltaic electrical generating facilities as a conditional use within the Exclusive Agriculture 40-Acre and General Agriculture 40-Acre Zoning Districts, subject to Planning Commission approval.
Article 11, Section 1112, Alternative Energy Systems, identifies the following standards for commercial solar electric generating systems in Agriculture Zoning Districts:

a. The proposed site shall be located in an area designated as either “Very Low Priority,” “Low Priority,” or “Low-Medium Priority” land according to Figure RC-13 Priority Agricultural Land (2035 Kings County General Plan, Resource Conservation Element, Page RC-20). “Medium Priority” land may be considered when comparable agricultural operations are integrated, the standard mitigation requirement is applied, or combination thereof.

   1. As shown Figure RC-13 Priority Agricultural Land of the 2035 Kings County General Plan, the project site is shown as consisting of Very Low Priority, Low Priority, and Medium-Low Priority Agricultural Land. The project would temporarily affect the land uses of approximately 872 acres of Low-Medium Priority Agricultural Lands for up to 50 years. (Note: This area corresponds to the area mapped as “Farmland of Statewide Importance” on the most recent “Kings County Important Farmlands Map” prepared by the Farmland Mapping and Monitoring Program of the California Department of Conservation in 2016.) In consideration the cumulative effects of agricultural land conversion, the project could have a significant impact if the site were taken out of agricultural production permanently. MM AG-1, MM AG-2, and MM AG-3 would reduce this impact by ensuring that agricultural uses are maintained during operation of the project, and that the agricultural viability of the parcels is maintained after decommissioning. With the implementation of these measures, potentially significant cumulative impacts would not be cumulatively considerable.

b. The proposed site shall be located within 1 mile of an existing 60 kV or higher utility electrical line. Small community commercial solar projects (less than or equal to 3 MW) may be located more than 1 mile from a 60 kV or higher transmission line subject to the following findings:

   1) The project site is located on low or very low priority farmland.
   2) The project site is not restricted by a Williamson Act or Farmland Security Zone contract.
   3) The project will connect to existing utility infrastructure without building new power lines.
   4) The project will not result in any additional easements on agricultural land, other than access easements or easements within the public Right-of-Way.

The proposed project does not classify as a small community commercial project (less than or equal to 3 MW); therefore, the project shall be located within 1 mile of a 60 kV or greater transmission line. An existing 70 kV utility transmission line passes through the center of the project site alongside the 25th Avenue alignment. The proposed project is consistent with this requirement of the Code.

c. Agricultural mitigation shall be proposed for every acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance converted for a commercial solar facility. The agricultural mitigation shall preserve at a ratio of 1:1 an equal amount of agricultural acreage of equal or greater quality in a manner acceptable to the County for the life of the project. Agricultural mitigation on land designated “Medium-High” or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.
1. Approximately 872 acres (or 48 percent) of the project site is classified as Farmland of Statewide Importance. (The remaining lands on the project site are classified as Grazing Land). The project would not result in permanent conversion of Farmland of Statewide Importance, which are entirely located west of the 25th Avenue alignment; rather, the applicant proposes to graze livestock (sheep) between and under the arrays and maintain this western portion of the site in agricultural uses. MM AG-1, MM AG-2, and MM AG-3 shall be implemented so that agricultural uses are maintained during operation of the project and that the agricultural viability of the parcels is maintained after decommissioning. MM AG-1 requires preparation of an Agricultural Management Plan which would outline the ongoing agricultural productivity for the life of the project. The Plan shall address measures in the event grazing is discontinued, which include canceling the existing Williamson Act and Farmland Security Zone Contracts, and providing mitigation at a ratio of 1:1 for the loss of Farmland of Statewide Importance (designated as Medium Priority Lands on the Aquamarine project site). With implementation of MM AG-1, MM AG-2, and MM AG-3, this finding would be satisfied.

d. The project shall include a reclamation plan and financial assurance acceptable to the County that ensures the return of the land to a farmable state after completion of the project life, and retains surface water rights.

1. A Soil Reclamation Plan, along with requisite financial assurances, is identified for this project in MM AG-2 and MM AG-3. With implementation of MM AG-2 and MM AG-3, this finding would be satisfied.

e. The project shall include a pest management plan and weed abatement plan to protect adjacent farmland from nuisances and disruption.

1. A pest management plan and weed abatement plan are conditions of approval. See Condition No. 17 below.

f. The project shall space internal access driveways per Kings County Fire Department standards.

1. Prior to issuance of the building permit, detailed site plans showing internal access driveways shall be prepared and provided to the Planning Division and Fire Department. The access driveways shall be maintained and completely surround the solar panels to allow access from any side or end. Access driveways shall not be less than 20 feet wide and shall provide vertical clearance of not less than 13 feet 6 inches. Detailed plans shall be provided for review and the applicant shall meet with the Fire Marshal in a timely manner upon request for clarification of any issues. Any deviation from these standards requires approval through the Fire Marshal. With implementation of the Conditions for the Conditional Use Permit, this finding would be satisfied.

g. The project shall include a solid waste management plan for site maintenance and disposal of trash and debris.

1. The applicant shall implement a Solid Waste Management Plan for this project. The non-hazardous waste generated during construction and operation shall be segregated
on-site for recycling or disposal at a Class III landfill. Hazardous wastes generated during project construction and operation shall be either recycled or disposed of at a Class I disposal facility, as required. With implementation of Condition No. 18 listed below, this finding would be satisfied.

h. The project site shall not be located on Williamson Act or Farmland Security Zone contracted land, unless it meets the principles of compatibility under Government Code Section 51238.1.(a). Otherwise, the contract shall be proposed for cancellation.

1. The project site is subject to Williamson Act and Farmland Security Zone contracts. The project applicant proposes to avoid conflict with the Williamson Act and Farmland Security Zone contracts by maintaining a use on the entire site that meets the principles of compatibility pursuant to Gov. Code Section 51238.1(a) and by maintaining reasonably foreseeable agricultural operations on the project site. MM AG-1, MM AG-2, and MM-AG-3 shall be implemented so that agricultural uses are maintained during operation of the project and that the agricultural viability of the contracted parcels is maintained after decommissioning. MM AG-1 requires preparation of an Agricultural Management Plan which would outline the ongoing agricultural productivity for the life of the project. The Plan shall address measures in the event grazing is discontinued, which include canceling the existing Williamson Act and Farmland Security Zone Contracts, and providing mitigation at a ratio of 1:1 for the loss of Farmland of Statewide Importance (designated as Medium Priority Lands in the Kings County General Plan).

5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity.

Finding: The proposed use was subject to analysis pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines. An IS/MND was prepared and circulated for a 30-day public comment period. With incorporation of mitigation measures, the proposed use will not result in any of the significant effects which are objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity. In addition to mitigation measures adopted as part of the Mitigation Monitoring & Reporting Program (MMRP), other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance.

6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.

Finding: The proposed facility will not be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.
The proposed project would involve the construction, operation, maintenance and decommissioning of a solar photovoltaic power generating facility on approximately 1,825 acres of land. Hazardous materials would be handled in compliance with applicable laws and regulations regarding transport, handling, disposal, and storage. The Project would comply with federal and state regulations regarding the use, handling, disposal, recycling and reuse of PV cells. Lighting will be oriented and/or shielded to the interior of the site to prevent spillage onto nearby properties and rights-of-way. Solar glare would not impact flight paths or the air traffic control station. In addition, compliance with international, federal, state, and local regulations would ensure that there is a low potential for fires. The IS/MND did not identify any potentially significant environmental effects that cannot be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-02. Other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance. Parking areas and driveways will be surfaced and maintained per County standards (see Planning Division Requirement No. 8-10 below). The combination of site design, mitigation measures, and other conditions of approval will result in minimization or elimination of injurious effects.

7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.

**Finding:** The proposed project would include the installation of a septic tank and drain field system for the wastewater from the O&M Building that could be constructed. The septic system would require a permit from the Kings County Community Development Agency. Onsite septic system facilities would be installed in compliance with the California Building Code and Kings County Plumbing Code (Ordinance No. 567.4 Section 5-82). The system shall be designed by a qualified engineer (see Building Division Requirement No. 13 below).

8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.

**Finding:** This project, as described in the EIR, will be required to comply with all applicable regulations of the SJVAPCD, including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review). The construction resulting from this project could temporarily increase emissions of PM10 and thus a condition of approval will require that the project shall comply with SJVAPCD Regulation VIII.

9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

**Finding:** Article 16, Section 1602.A.5 requires that site plans for commercial and industrial project be professionally drawn to a scale large enough to show all details clearly with full dimension. Site plans must include detail of the following: lot dimensions; setback measurements; all buildings and structures; yards and space between buildings; all walls, fences, and gates; off-street parking; property access; signs; loading; lighting; street dedications and improvements; landscaping; fire hydrants; on-site drainage; and any other data as required. The site plan meets all of the criteria required by Section 1602.A.5, such that the locations, sizes, and functions of all existing and proposed features can be ascertained.
STATEMENT OF FINDINGS OF CONSISTENCY:

1. LAND CONSERVATION (WILLIAMSON) ACT FINDINGS:

   A. Within the project site, there are a number of parcels that are subject to Williamson Act contracts or Farmland Security Zone contracts. On November 26, 2013, Kings County adopted Resolution No. 13-058 recognizing that certain land parcels within the County south of SR-198 and west of SR-41 (e.g., where the Project site is located) that are under Williamson Act (or Farmland Security Zone) contracts are limited in agricultural production due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens. Further, the Resolution provides that solar uses (solar farming) with dry farm seasonal grazing or similar commercial agricultural activity may be compatible uses under the Williamson Act as long as the applicant for such a project provides a soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, that the proposed concomitant commercial agricultural operation is a reasonably foreseeable use of the land (taking into account surface water availability, groundwater quality and availability, and soil conditions).

   The Soil and Water Analysis Report that was prepared for the Project (provided in Appendix A of the IS/MND) fulfills the requirements of Resolution No. 13-058 in demonstrating that poor soil and water quality, and insufficient supplies of surface and groundwater currently exist and that the proposed concomitant commercial agricultural operation (solar facility and dry-farm seasonal sheep grazing) would be a reasonably foreseeable use of the land at the Project site. Consequently, because the Project site is located within an area covered under Resolution No. 13-058, has adequately demonstrated through the Soils and Water Analysis Report that poor soil and water quality exist, water supply is insufficient to support agricultural crops, and because the Project would allow for dry grazing and would require the preparation of a Soil Reclamation Plan and an updated Engineer’s Cost Estimate for financial assurances every 5 years, there would be no potential conflict or conversion of land under Williamson Act (or Farmland Security Zone) contracts.

2. FLOOD PLAIN FINDINGS:

   A. The site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0300C, dated June 16, 2009. There are no development restrictions associated with Area of Minimal Flood Hazard Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

3. AIRPORT COMPATIBILITY ZONE FINDINGS:

   A. The project site is not located within an Airport Compatibility Zone.

BE IT FURTHER RESOLVED, that based on the above findings, this Commission adopts the Initial Study/Mitigated Negative Declaration prepared for Conditional Use Permit No. 17-04 and approves Conditional Use Permit No. 17-04 as proposed, subject to the conditions and exceptions as follows:
KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY – PLANNING DIVISION Contact Chuck Kinney of the Kings County Community Development Agency – Planning Division at (559) 852-2674 regarding the following requirements:

1. All proposals of the applicant shall be conditions of approval if not mentioned herein.

2. The site plan for the project is approved in concept. However, it is understood that during the actual design of the project that either of the following minor alterations to the site plan may be necessary: 1) structural alterations; and/or 2) alterations to the location of structures. Any minor alterations shall comply with the following requirements:

   A. The site shall be developed in substantial compliance with the conceptually-approved site plan. Development of the site shall be considered substantially consistent with the approved conceptual site plan if any minor structural alteration is within ten (10) percent of the square footage shown on the conceptually approved site plan or up to a 2,500-square-foot increase in structural size, whichever is less, and the minor structural alteration complies with coverage standards.

   B. A minor alteration of the location of a structure shall be considered substantially consistent with the approved conceptual site plan if the new location of the structure complies with all setback requirements for the zone district that the project site is located in.

   C. Any minor alteration that would make it necessary to modify or change any condition of approval placed on the project would require resubmittal of the application to amend the approval of the Site Plan Review.

   D. No expansion of use, regardless of size, which would increase the projected scale of operations beyond the scope and nature described in this Conditional Use Permit application, will be allowed. Any expansion that is a substantial change from the conceptually-approved site plan will require either an amendment to the approved Conditional Use Permit or a new zoning permit.

3. The development shall comply with all regulations of Development Code No. 668.13, with particular reference to the Exclusive Agricultural (AX) Zone District standards and the General Agricultural (AG-40) Zone District standards contained in Article 4.

4. All signage must comply with Section 418.C of the Kings County Development Code. Signs shall be located outside of the public right-of-way and shall not be located within a traffic safety visibility area if over three (3) feet in height. Unless a different setback is specified for a particular zone district, the minimum setback distance for all signs over three (3) feet in height shall be ten (10) feet from property lines.

5. Any exterior lighting shall be hooded so as to be directed only on-site. Pursuant to Section 418.E of the Kings County Development Code, exterior lighting shall be designed to be compatible with the architectural and landscape design of the project.

   A. All new proposed uses shall preserve the existing nighttime environment by ensuring that the outdoor lighting for the use is so arranged and/or hooded as to reflect light away from adjoining properties.
B. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses, and shall be hooded, shielded, and located to direct light pools downward and prevent glare.

C. To achieve the desired lighting level for parking and pedestrian areas, the use of more short, low intensity fixtures is encouraged over the use of a few tall fixtures that illuminate large areas.

6. Pursuant to Section 418.F of the *Kings County Development Code*, all property owners and residents in Kings County are highly encouraged to participate in resource conservation efforts to help preserve and conserve dwindling natural resources. All property owners proposing new development within the agricultural zoning districts are encouraged to implement the following resource conservation measures, as applicable, as part of their development proposals.

A. Water Meters: The installation of water meters to encourage water conservation.

B. Stormwater Drainage: The integration of onsite stormwater drainage features such as small catch basins, rain gardens, and landscape depression basins into site plans to increase the stormwater detention.

C. Drought Tolerant Landscaping: The integration of drought tolerant landscaping and conservation fixtures with the structures to reduce the average per capita water use.

7. Parking shall be provided in accordance with Article 13, Table 13-1 of the *Kings County Development Code* and shall be installed in accordance with *Kings County Improvement Standards*. (Note: Accessible parking requirements are listed under Building Division Requirement Nos. 8 and 9 below.)

8. All drive approaches, parking areas, aisles, and driveways shall be provided prior to either: 1) initial occupancy of the site; or 2) the final inspection.

9. Pursuant to Section 303.G of the *Kings County Improvement Standards* the parking area at the O&M building shall be surfaced and maintained so as to provide a durable, dustless surface. Section 303.G. and Drawing 3036 of the *Kings County Improvement Standards* requires two (2) inches of Type “B” Asphalt Concrete over four (4) inches of Class 2 aggregate base over six (6) inches of R-50 Native @ 95% compaction under the “Heavy Use conditions”. All other parking areas, aisles, and driveways shall be surfaced and maintained so as to provide a durable, dustless surface pursuant to the “Rural Alternative”. Section 303.G. and Drawing 3036 of the *Kings County Improvement Standards* requires Cutback Asphalt over four (4) inches of Decomposed Granite under the “Rural Alternative.” (Note: The Kings County Planning Commission hereby reserves the right to require additional improvements to the parking area and driveway if at any time in the future the decomposed granite surface deteriorates and either a dust problem is created due vehicles driving on the decomposed granite surface, or a mud problem is created due to vehicles tracking mud onto County Roads.)

10. Accessible parking spaces shall be located so as to minimize the travel distance to the use's primary entrances for access. Required off street accessible parking spaces, and standards for those spaces, shall meet state standards.
11. Pursuant to Article 4, Section 418.B.5 of the *Kings County Development Code* the following are required for landscaping in Agricultural Zoning District:

A. In all Agricultural Zoning Districts, as stated in Article 15, all new construction and rehabilitated landscape projects installed after January 1, 2010 are subject to and shall comply with the “California Model Water Efficient Landscape Ordinance”.

12. Pursuant to Section 418.B of the *Kings County Development Code*, the project shall comply with the following requirements pertaining to fencing and gates:

**Fences, Walls, and Hedges** exceeding six feet in height shall be permitted except that fences, walls, and hedges shall not exceed three feet in height within a Traffic Safety Visibility Area as defined in Article 25 of this Development Code.

**Gates** shall be permitted as follows:

A. Gates which are used for the primary vehicular ingress and egress and which are opened and closed manually shall be setback so that the greater of the following distances are met from the property line being used for access:

1) A minimum distance of 20 feet.

2) A distance sufficient to ensure that vehicles used for a permitted use requiring a Site Plan Review or Conditional Use permit are able to pull completely onto their property.

B. Gates used for the primary vehicular ingress and egress and which are opened and closed electronically with a remote control may be located within any portion of the property being used for access to a driveway provided that:

1) The property owner/occupant shall obtain a building permit from the building department for the installation of the electric gate operating mechanism and wiring. The property owner/occupant must also request and obtain a final inspection for the assigned building permit and demonstrate operation of the mechanism using the remote.

2) The gate must be operational at all times using a remote control device that allows the property owner/occupant to open and close the gate to enter the driveway area without exiting the vehicle.

3) At any time that the gate is not operational using the remote control device the gate must either be locked in the open position or it must be removed entirely.

C. Access gates to property which are not the primary vehicular ingress and egress such as an access gate to a rear yard to allow the parking of an RV, boat or similar use or for equipment access to be used in maintenance of the property do not require additional setback from the property line. Secondary access gates shall have locking mechanisms accessible only from the interior side of the gate.
13. All open and unlandscaped portions of the lot shall be maintained in good condition, free from weeds, dust, trash and debris.

14. The minimum yard requirements from property line to a structure shall be as follows:

   A. The minimum front yard setback for occupied structures shall be not less than fifty (50) feet from the public road right-of-way line or the property line if not fronting on a public road right-of-way. The minimum front yard setback for non-occupied uses shall be not less than thirty-five (35) feet from the public road right-of-way or property line if not fronting on a public road right-of-way.

   B. The minimum side yard setback shall be ten (10) feet from the side property line for interior sites. The minimum side yard setback shall be twenty (20) feet from the public road right-of-way line on the street side of a corner site.

   C. The minimum rear yard setback shall be ten (10) feet from the rear property line.

15. The minimum distance between structures shall be ten (10) feet.

16. The applicant shall develop and submit a pest management plan and weed abatement plan to the Kings County Community Development Agency for review and approval which establishes set action thresholds, identify pests, specify prevention methods as a first course of action, specify control methods as a second course of action, and establish a quantitative performance goal of nuisance reduction to adjacent farmland. Rodenticide, if used, shall be selected and used in a manner that minimizes impacts to protected biological species.

17. The applicant shall develop and submit a Solid Waste Management Plan to the Kings County Community Development Agency for review and approval which establishes action items and specific control methods to ensure that: 1) The non-hazardous waste generated during construction and operation shall be segregated on-site for recycling or disposal at a Class III landfill; and 2) Hazardous wastes generated during project construction and operation shall be either recycled or disposed of at a Class I disposal facility, as required.

18. Prior to the issuance of a building permit, the applicant shall submit a Soil Reclamation Plan for review and approval by Community Development Agency staff, in accordance with MM AG-2.

19. Prior to the issuance of a building permit, the applicant shall post a performance bond or similar instrument to ensure completion of the activities under the Soil Reclamation Plan, in accordance with MM AG-3.

20. All mitigation measures in the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Plan that pertains to CUP No. 17-04 are adopted as conditions of this approval, and included in the Conditional Use Permit.

21. The weed abatement plan shall contain specific provisions to address Russian Thistle (also known as tumbleweed). The weed abatement plan shall also contain specific provisions requiring that weeds be addressed on an annual basis (prior to reaching maturity and prior to producing seeds) on the entire property that the project site is located on, the perimeter fence line, the area outside the
perimeter fence to all adjacent property lines, and the area outside the perimeter fence to the adjacent County road shoulder.

22. The applicant shall comply with all requirements of, and obtain any necessary permits from, the San Joaquin Valley Air Pollution Control District (SJVAPCD). Questions concerning SJVAPCD requirements should be directed to Georgia Stewart at (559) 230-5937.

23. The applicant shall comply with all requirements of, and obtain any necessary permits from, the California Regional Water Quality Control Board (CRWQCB). Questions concerning CRWQCB requirements should be directed to David Sholes at (559) 445-6279.

24. The applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and Department of Environmental Health Services, and all other local and state regulatory agencies.

25. Pursuant to Section 14-38(d) of the Kings County Code of Ordinances, a “Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings” shall be signed, notarized, and recorded.

26. Pursuant to Section 66020(d)(1) of the California Government Code, the owner is hereby notified that the 90-day approval period in which the applicant may protest the imposition of fees, dedications, reservations, or other exactions, begins on the date that this resolution is adopted.

27. Sales, use, or transactions tax may apply to business activities on the site. The applicant may seek written advice regarding the application of tax to your particular business by writing to the nearest State Board of Equalization office. For general information, please call the Board of Equalization at 1-800-400-7115.

28. Within eight (8) days following the date of the decision of the Kings County Planning Commission, the decision may be appealed to the Kings County Board of Supervisors. The appeal shall be filed with the Clerk of the Board of Supervisors.

29. This Conditional Use Permit shall lapse and shall become null and void three (3) years following the date that the Conditional Use Permit became effective, unless prior to the expiration of three (3) years the proposed use has been established. A Conditional Use Permit involving construction shall lapse and shall become null and void three (3) years following the date that the Conditional Use Permit became effective, unless prior to the expiration of three (3) years a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application.

30. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit’s expiration date.

31. This approved conditional use permit shall run with the land and shall continue to be valid upon change of ownership of the site which was the subject of the Conditional Use Permit approval.
32. This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

BE IT FURTHER RESOLVED that the following departments’ and agencies’ have listed requirements, standards, and regulations that must be met under those departments’ and agencies’ jurisdiction. The Planning Commission has no authority to modify, amend, or delete any of these requirements, standards, and regulations, but lists them here as information to the applicant. Appeals for relief of these standards and regulations must be made through that department’s or agency’s procedures, not through the Development Code procedures. However, failure of the applicant to comply with these other departments’ and agencies’ requirements, standards, and regulations is a violation of this Conditional Use Permit and could result in revocation of this Conditional Use Permit.

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - BUILDING DIVISION Contact Darren Verdegaal at the Kings County Community Development Agency - Building Division at (559) 852-2683, regarding the following requirements:

1. Building permits must be obtained from the Building Division of the Kings County Community Development Agency for any structures, plumbing, electrical, or mechanical work.

2. Failure to obtain a building permit for any structure, prior to commencing construction, which requires a building permit, will result in the payment of a double fee. Payment of such double fee shall not relieve any person from fully complying with the requirements of Kings County Code of Ordinances, Chapter 5 in the execution of the work or from any other penalties prescribed therein.

3. A minimum of two (2) sets of plans and calculations signed by an architect or engineer licensed to practice in the State of California shall be required for all structures.

4. All special inspection reports shall be provided to the Building Division prior to requesting a final inspection.

5. The applicant is responsible for contacting the Building Division to request a final inspection of the structures prior to occupying the structures and prior to startup of the operation. No building or structure shall be used or occupied until the Building Division has issued a Certificate of Occupancy.

6. All drive approaches and durable dustless surfaces shall be installed prior to the final inspection and maintained as per County Standards.

7. If the facility will have employees on-site for maintenance of the system an accessible restroom shall be provided and shall comply with Section 1115B of the California Building Code. This may be accomplished by either construction of a permanent structure or use of a chemical toilet with a regular maintenance schedule.

8. Pursuant to Section 1129B of the California Building Code, one (1) van accessible parking space, allowing room for individuals in wheelchairs, on braces or crutches to get in and out of an automobile onto a level surface, suitable for wheeling and walking shall be provided. The parking space shall be 9 feet x 20 feet with an 8-foot wide loading and unloading aisle placed on the side.
opposite the driver’s side. The surfacing of the parking space, loading and unloading aisle and the accessible path from the space to the entrance of the building shall be either asphalt concrete or concrete.

9. The development shall comply with all applicable Americans with Disabilities Act (ADA) requirements, especially Section 1127B of the California Building Code, which states that site development and grading shall be designed to provide access to all entrances and exterior ground-floor exits, and access to normal paths of travel. The accessible route of travel shall be the most practical direct route between accessible building entrances, accessible site facilities and the accessible entrance to the site, including but not limited to access from the accessible parking space to accessible building entrances.

10. A soils report, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

11. The facility shall meet the requirements of the State of California Model Water Efficient Landscape Ordinance. Landscape and irrigation plans shall be provided to the Community Development Agency for review and approval prior to building permit issuance.


13. A septic system design, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

14. School fees based on square footage of building shall be added to the cost of the building permit, unless the school district provides an exemption from the school fees.

15. The site, as well as the buildings, shall be made accessible and usable by the disabled according to the California Building Code Chapter 11B.

16. The tenant, lessee and/or owner are responsible for compliance with the Americans with Disabilities Act, ADA. By federal law the facility shall be made accessible to the highest degree possible.

17. Public Facilities Impact Fees for the building shall be payable at the time of the issuance of the building permit.

**KINGS COUNTY PUBLIC WORKS DEPARTMENT** Contact Mike Hawkins of the Kings County Public Works Department at (559) 852-2708 regarding the following requirements:

1. All requirements required hereafter shall conform to the Kings County Improvement Standards.

2. All other alternatives to Public Works requirements must be approved by the Kings County Public Works Department.
3. That access to the site from a public road must be provided, and must be approved by the Kings County Public Works Department.

4. The applicant shall obtain an encroachment permit from the Kings County Public Works Department.

5. Drive approaches shall be constructed in accordance with Section 205 of the *Kings County Improvement Standards* and shall be 2.5” of asphalt concrete over 10 inches of Class 2 Base Rock from the edge of roadway to the gate.

6. Durable and dustless surfacing shall be constructed for all roads constructed on site.

7. The fence shall be placed outside of the County right-of-way not closer than 1 foot to the right of way line.

8. No private overhead lines shall be placed within the right-of-way.

9. Gates at access points shall be indented per the Kings County Development Code.

10. Applicant/Owner shall maintain fence line and adjacent County road shoulder in a weed free condition.

11. All drainage shall be contained on-site in accordance with Section 404-C.

12. Provide a 4000 Kelvin, 120 or 139 watt LED Street light on standard wood pole to be maintained and paid for by applicant at entrance to site.

13. Drive approach shall be constructed so as storm drainage shall flow towards property.

14. Developer shall provide a 100% Performance Bond for work done in the right-of-way when the value of the work is $10,000 or more, except when a) the work consists of only a drive approach or b) the work is covered under a subdivision improvement agreement. The value of the work will be determined by an Engineer’s Estimate provided by the developer’s engineer, and approved by the County. Said bond will be provided on a form approved by the County and submitted prior to the granting of a building permit.

15. Patch any potholes and repair any edge pavement failures or road shoulder damage that is a result of the project construction/decommissioning phase as directed by the County Public Works.

16. Design and construct all improvements necessary to provide for the safe travel of traffic on Avenal-Cutoff Rd. and Laurel Avenue. Primary concerns shall include the mitigation of thru traffic and vehicles turning left or right off of Avenal Cutoff Rd. and Laurel Ave. into solar site during the constructions/decommissioning phase. Submit engineered improvement drawings for this work to the Public Works Department for review.
KINGS COUNTY FIRE DEPARTMENT  Contact Rick Levy of the Kings County Fire Department at (559) 852-2885 regarding the following requirements:

1. Life safety and fire suppression access roads shall be not less than 20 feet in width around the perimeter of the site and shall include interior fire access roads not less than 20 feet in width that are spaced so that there is not greater than 400 feet in separation between fire access roads on the interior of the site. Life safety and fire suppression access roads shall be designed, engineered and maintained to be an all-weather surface capable of supporting the imposed loads of a sixty-five thousand (65,000) pound fire apparatus. Fire apparatus roads shall have a maximum grade of 12 percent. The engineered designs shall be reviewed by the Kings County Public Works Department and approved by the Kings County Fire Department. Grades may be increased under special circumstances when approved by the Kings County Fire Department. There shall be an unobstructed vertical clearance of 13 feet 6 inches above all life safety and fire suppression access. If the access road is a dead end road, a 50 foot radius at the end of the road or other Fire Department approved turn around will need to be constructed.

- In Lieu of installing and maintaining life safety and fire suppression access roads as well as interior fire access roads, the developer may provide funds (prior to the commencement of grading for the project or any materials being brought to the project site) sufficient for the Kings County Fire Department to purchase an all-terrain firefighting vehicle the model, final cost, conditions and equipment of which shall be approved by the Kings County Fire Department, if the project is designed so that solar panels are grouped into blocks and includes an unobstructed setback of 20 feet between grouped blocks and the grouped blocks are not greater than 400 feet in distance on the interior of the site.

2. There shall be a minimum of 4 feet of separation between rows to allow access for fire suppression personnel.

3. Any fire suppression systems will need to meet all applicable State and Kings County Fire Department requirements.

4. The fire protection system, including fixed and portable extinguishing systems must be up to date on required annual fire inspections and tests and be approved by the Kings County Fire Department.

5. The Fire Department requires a supply of firefighting water available in a storage tank(s) on site. The amount of water required and any required connections shall be in accordance with NFPA 1142 and the Kings County Fire Department. The tank shall be equipped with a pressure system and float valve device to keep the tank full at all.

6. Four-inch reflective address numbers at the main street side entrance shall be installed pursuant to Section 505.1 of the California Fire Code.

7. Where gates are provided, a means of Fire Department entry shall be provided. Manual gates shall have a Fire Department Knox key lock provided. Powered gates shall be provided with a Fire Department Knox access override system. Gates shall open inward and gate entrances shall be 4 feet wider than the lane serving the gate and be located a minimum of 30 feet from the roadway to
allow a vehicle to stop without obstructing traffic. A Knox pad lock shall be placed on chained gates or Knox box with gate access keys mounted at the main entrance for Fire Department access.

8. There will be a minimum rated 4A60BC Fire Extinguisher located at each inverter pad and transformer pad, mounted on a bollard protected from the weather or in a cabinet. All extinguishers shall be mounted with securely fastened hangers so that the weight of the extinguisher is adequately supported, and at a height compliant with the California Fire Code. Additional extinguishers may be required based upon special hazards or conditions. These extinguishers must be maintained per California Fire Code.

9. Employees shall be familiar with the use of fire safety equipment.

10. The solar field shall be kept clear of combustible weeds and debris.

11. Subject to Fire Marshal approval, Applicant shall provide training for fire personnel to be able to interrupt electrical power safely for emergency incidents requiring fire suppression or rescue activities.

12. All plans shall comply with the California Fire Code and all regulations of the Kings County Fire Department.

13. Facilities having a gross building area of more than 62,000 square feet shall be provided with two separate and approved Life safety and fire suppression access roads/entrances. It should be noted that if the developer chooses to fund the purchase of an all-terrain firefighting vehicle this requirement is still needed since due to the size of the structure more than one firefighting vehicle would be needed.

14. Any future development must comply with applicable Fire Code, including rural firefighting water supply requirements.

15. Project must comply with Kings County Fire Department Guidelines for Photovoltaic Solar Sites.

16. Fire Department reserves the right to amend existing comments or requirements or add additional comments or requirements depending upon the hazards involved with the project.

KINGS COUNTY HEALTH DEPARTMENT  Contact Troy Hommerding of the Kings County Department of Environmental Health Services at (559) 852-2627 regarding the following requirements:

1. A public drinking water permit is required from facilities that meet the definition of a small public water systems as per Section 116275 of the California Safe Drinking Water Act which is contained in Part 12, Chapter 4 of the California Health and Safety Code. Facilities that serve 5 or more residential units or provide water to 25 or more people for 60 or more days per year fall under this requirement. A completed and approved application with technical report is required by the Kings County Department of Public Health – Division of Environmental Health Services and the State Water Regional Control Board prior to operating a public water system. However, prior to submitting an application package the proponent shall consider Section 116527 of the Health
and Safety Code, and Section 106.4 to the Water Code, relating to drinking water. Please contact our office for further assistance at (559)584-1411.

2. Any plumbing fixtures, such as hand wash sinks, used by employees for personal use must have bacteriologically safe water. Sinks should be limited to handwashing only and should be posted with signage indicating that the water is suitable for washing and general cleaning, but not recommended for drinking. Bottled water or other potable source must be provided for drinking. If drinking water will be provided to 25 employees or more for 60 days or more over a calendar year, then the facility may require a public water system permit from our office. Portable toilets must be serviced at an adequate frequency so as not to create nuisance conditions.

3. Three copies of engineered construction plans for the septic system, including percolation test results, must be provided to our office for review and approval prior to construction. The application form is available at our website http://www.countyofkings.com/departments/health-welfare/environmental-health-services-1

4. If hazardous materials will remain on site in quantities equal to or greater than 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas, then the facility will be required to file and maintain a Hazardous Materials Business Plan with our office. Applicable forms are available at our website at www.countyofkings.com/health/ehs. Any hazardous wastes generated on site must be managed appropriately.

5. Any quantities of hazardous wastes generated by the facility operation must be managed in accordance with Federal, State, and local laws and regulations. Hazardous wastes cannot be disposed of into the municipal waste stream or onsite sewage disposal system. The owner/operator must contact our office with any questions regarding proper management and reporting of hazardous wastes associated with this operation.

6. Given the proximity of NAS Lemoore and frequent air traffic over the site, as well as adjacent highway and road traffic, the sites must be designed and constructed so as to minimize light reflectivity that might be hazardous for aircraft or vehicles.

7. As per the Kings County Public Health Officer, *Coccidioides immitii*, the fungus that causes valley fever, a serious and potentially long-term respiratory illness, is endemic in the soils of Kings County. Construction activities that disturb soils containing the spores of the fungus can put workers and the nearby public at risk. Effective dust control must be maintained on the job site at all times in order to reduce the risk of valley fever to workers and nearby residents. More information regarding the prevention of work related valley fever is available at [www.cdph.ca.gov/programs/hesi/Documents/CocciFact.pdf](http://www.cdph.ca.gov/programs/hesi/Documents/CocciFact.pdf) and [http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf](http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf). Contact the San Joaquin Valley Air Pollution Control District for more information on dust control techniques.

**SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT:** Contact Georgia Stewart of the SJVAPCD at (559) 230-5800 concerning the following requirements.

1. The applicant shall comply with all San Joaquin Valley Air Pollution Control District regulations including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review) and Regulation VIII.
The foregoing Resolution was adopted on a motion by Commissioner __________ and seconded by Commissioner __________, at a regular meeting held on September 9, 2019, by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSTAIN: COMMISSIONERS
ABSENT: COMMISSIONERS

KINGS COUNTY PLANNING COMMISSION

____________________________
Riley Jones, Chairperson

WITNESS, my hand this ___ day of ______, 2019.

____________________________
Gregory R. Gatzka
Secretary to the Commission

Exhibit A: Mitigation Monitoring & Reporting Program (MMRP)

cc: Kings County Board of Supervisors
    Kings County Counsel
    Kings County Community Development Agency – Building Division
    Kings County Fire Department
    Kings County Public Works Department
    Kings County Health Department, Division of Environmental Health Services
EXHIBIT “A”

MITIGATION MONITORING AND REPORTING PROGRAM

AQUAMARINE SOLAR PROJECT AND GEN-TIE LINE
CUP 17-04

COUNTY OF KINGS, CALIFORNIA

SEPTEMBER 2019
### Mitigation Monitoring and Reporting Program

**Aquamarine Solar Project and Gen-Tie Line  CUP 17-04**

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
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<th>Monitoring Agency/ Timing/Action</th>
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<tr>
<td><strong>4.2. AGRICULTURE AND FORESTRY RESOURCES</strong></td>
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**Mitigation Measure AG-1: Agricultural Management Plan.** Prior to the issuance of a building permit, the applicant shall submit to Kings County an Agricultural Management Plan (AMP) that provides for the ongoing agricultural productivity of the entire project site for the life of the project. The AMP shall specify that at least 90 percent of this area of the site shall be vegetated with grasses and forbs and shall be managed for dry farm seasonal sheep grazing. The AMP shall include specific provisions for soil preparation and revegetation including specifications for a seed mix which is appropriate to the soil and climatic conditions in the absence of irrigation, methods of avoiding invasive species, and a list of acceptable vegetation that meets the dietary needs of sheep. The AMP shall include detailed provisions to ensure the successful establishment of the planned vegetative cover, and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock and wildlife. The AMP shall also prescribe the management practices for sheep grazing. The AMP shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency. The AMP shall also comply with the requirements of the Kings County Development Code related to weed abatement and pest control. **[Note: This MM would not be required to be implemented on the easterly 953 acres of the project site in the event that it is determined that re-enrollment of project lands not currently under Williamson Act contract is found not to be required under Government Code Section 51295.]**

**Mitigation Measure AG-2: Soil Reclamation Plan.** Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the entire project site at the end of the project’s useful life. The Plan shall contain an analysis of general pre-construction conditions of the project site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including: (1) removal of all above-ground and below-ground project fixtures, equipment, and non-agricultural driveways; (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition; (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site; and *(Continued on next page.)*
### MITIGATION MONITORING AND REPORTING PROGRAM

**Aquamarine Solar Project and Gen-Tie Line**  
**CUP 17-04**

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<td>(4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the project area has been restored to pre-construction conditions would be assessed by Kings County staff until the entire project area has been restored to equivalent conditions. All waste shall be recycled and disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the project use permit with Planning Division staff.</td>
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<td><strong>Mitigation Measure AG-3: Financial Assurance.</strong> Prior to the issuance of a building permit, the applicant shall either post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer’s Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, the applicant shall submit an updated Engineer’s Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if amount of the assurances is sufficient to implement the Plan. The amount of the assurances must be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.</td>
<td><strong>During Project Decommissioning:</strong> Implement Soil Reclamation Plan as approved by Kings County CDA.</td>
<td><strong>During Project Decommissioning:</strong> Field inspections to verify implementation Soil Reclamation Plan as approved.</td>
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| The entire Aquamarine Solar Project.  
[MM AG-3 is not applicable to the Gen-Tie Line.] | **Responsible Party:**  
Applicant/Operator  
**Actions:**  
Prior to Building Permit Issuance:  
Submit financial assurance to Kings County CDA.  
Every Five Years:  
Prepare and submit revised Engineer’s Cost Estimate, and submitted adjusted financial assurance to Kings County CDA.  
**Monitoring Agency:**  
Kings County CDA.  
**Actions:**  
Prior to Building Permit Issuance: Verify that financial acceptable assurance has been provided.  
Every Five Years: Verify completion of revised Engineer’s Cost Estimate and confirm adjustment of the amount of assurance. | | | |

Kings County Community Development Agency  
September 2019
## MITIGATION MONITORING AND REPORTING PROGRAM
*Aquamarine Solar Project and Gen-Tie Line  CUP 17-04*

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<td><strong>4.3. AIR QUALITY</strong></td>
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| **Mitigation Measure AQ-1:** All off-road diesel construction equipment greater than 25 horsepower and operating at the site for more than 20 hours shall meet U.S. EPA Tier 3 engine standards for emissions of nitrogen oxides and particulate matter. | Aquamarine Solar Project and the Gen-Tie Line. | Responsible Party: Applicant/Contractor  
Actions:  
During Project Construction: Utilize Tier 3 equipment at a minimum. | Monitoring Agency: Kings County Public Works Department.  
Actions:  
During Project Construction: Field inspections to verify utilization of Tier 3 equipment. |                 |
| **Mitigation Measure AQ-2:** Develop a plan to use off-road diesel construction equipment that meets U.S. EPA Tier 4 engine standards for emissions of nitrogen oxides and particulate matter, to the extent feasible. This measure recognizes that specialized equipment may not be reasonably available for this project. | Aquamarine Solar Project and the Gen-Tie Line. | Responsible Party: Applicant/Contractor  
Actions:  
Actions:  
During Project Construction: Field inspections to verify use of Tier 4 equipment, as feasible. |                 |
| **Mitigation Measure AQ-3:** To ensure that project construction-related NOx emissions are adequately mitigated, the project proponent shall execute a Voluntary Emissions Reduction Agreement (VERA) with the SJVAPCD. The amount of NOx emissions to be mitigated through this agreement would be the uncontrolled emissions minus the emissions reduction attributable to Mitigation Measures AQ-1 and AQ-2. Prior to the issuance of building permits, the project proponent shall submit evidence to the County demonstrating that the project’s construction-related emissions of NOx will be reduced to below the SJVAPCD’s CEQA significance thresholds of 10 tons per year NOx. | Aquamarine Solar Project and the Gen-Tie Line. | Responsible Party: Applicant/Contractor  
Actions:  
Prior to Building Permit Issuance: Provide evidence of compliance with SJVAPCD thresholds to Kings County CDA. | Monitoring Agency: Kings County CDA.  
Actions:  
Prior to Building Permit Issuance: Verify compliance with SJVAPCD emissions thresholds. |                 |
## MITIGATION MONITORING AND REPORTING PROGRAM

### Aquamarine Solar Project and Gen-Tie Line  CUP 17-04

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<thead>
<tr>
<th>Mitigation Measure</th>
<th>Mitigation Measure is Applicable To</th>
<th>Responsible Party/ Timing/Action</th>
<th>Monitoring Agency/ Timing/Action</th>
<th>Verification Log</th>
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### 4.4 BIOLOGICAL RESOURCES (CONT’D)

**Mitigation Measure BIO-1: San Joaquin Kit Fox Protection.** In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented in conjunction with the Aquamarine Solar Project and the Gen-Tie Line:

a. **Pre-construction Surveys.** Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the “U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance” (USFWS 2011). The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on the project site and evaluate their use by San Joaquin kit fox. If an active kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.

b. **Kit Fox Avoidance Measures.** Should San Joaquin kit fox be found using the Aquamarine Solar Project site or Gen-Tie corridor during preconstruction surveys, the construction activity shall avoid the habitat occupied by kit fox and the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW shall be notified.

c. **Minimization of Potential Disturbance to Kit Fox.** Whether or not kit foxes are found to be present, all permanent and temporary construction activities and other types of project-related activities shall be carried out in a manner that minimizes disturbance to San Joaquin kit fox. Minimization measures include, but are not limited to: restriction of project-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of San Joaquin kit fox; restriction of rodenticide and herbicide use; and proper disposal of food items and trash. The full list of protection measures required by the USFWS during construction and operation contained in USFWS Standardized Recommendations (USFWS 2011), and is presented in Table BIO-1. The protection measures set forth in Table BIO-1 are fully incorporated into this mitigation measure by reference. (Continued on next page.)
### 4.4 BIOLOGICAL RESOURCES (CONT’D)

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<thead>
<tr>
<th>Mitigation Measure</th>
<th>Mitigation Measure is Applicable To</th>
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<td>d. <strong>Employee Education Program.</strong> Prior to the start of construction, the applicant shall retain a qualified biologist to conduct an on-site training session to educate all construction staff on the San Joaquin kit fox. This training shall include a description of the San Joaquin kit fox, a brief summary of their biology; and a list of minimization measures and instructions on what to do if a San Joaquin kit fox is observed within the Aquamarine Solar Project site or Gen-Tie corridor.</td>
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<td>e. <strong>Mortality Reporting.</strong> The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death of or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.</td>
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<td>f. <strong>Wildlife-friendly Fencing.</strong> The perimeter fencing surrounding each phase of the Aquamarine Solar Project shall consist of wildlife-friendly or permeable fencing that allows San Joaquin kit fox and other wildlife to move through the site unimpeded. The bottom of the perimeter fencing shall be 5 to 7 inches above the ground, as measured from the top of the ground to the lowest point of the fence. The bottom of the fence edges shall be knuckled (wrapped back to form a smooth edge) to allow wildlife to pass through safely. The fencing shall not be electrified.</td>
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**During Construction:**
1) Install wildlife-friendly fencing;
2) Implement disturbance minimization measures, as specified;
3) Report any kit fox mortalities as specified.

**During Project Operation:**
1) Report any kit fox mortalities as specified.
**MITIGATION MONITORING AND REPORTING PROGRAM**

*Aquamarine Solar Project and Gen-Tie Line  CUP 17-04*

**Table BIO-1**

**U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS**

1. 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.

2. 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 Wildlife (CDFW) shall be contacted as noted under measure 13 referenced below.

3. 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 USFWS 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.

4. 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.

5. No firearms shall be allowed on the project site.

6. 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.

7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox. 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 USFWS.

8. 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 USFWS.

(Continued on next page.)
Table BIO-1 (Cont’d)

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS
FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE
CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

9. An employee education program should be conducted for any project that has 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 should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated 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 revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the USFWS, California Department of Fish and Wildlife (CDFW), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the USFWS should be contacted for guidance.

12. 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. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The USFWS should be contacted at the numbers below.

13. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. 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 USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDBDB). 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.

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
4.4 BIOLOGICAL RESOURCES (CONT’D)

Mitigation Measure BIO-2: Protection for Nesting Raptors and Migratory Birds.

In order to minimize the construction disturbance to active raptor and other bird nests, the following measures shall be implemented in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

a. **Pre-construction Surveys.** If tree removal, site preparation, grading, or construction is planned to occur within the breeding season (February 1 - August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests within 10 days of the onset of these activities. If construction activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.

b. **Monitoring Active Nests.** Should any active nests be discovered in or near planned construction zones, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, continuously monitor all nests to detect any behavioral changes as a result of the project. If behavioral changes are observed, stop the work causing that change and consult with the California Department of Fish and Wildlife for additional avoidance and minimization measures.

c. **Exclusion Zones for Active Nests.** Alternatively, should any active nests be discovered in or near the planned construction zones, the biologist shall establish a 250-foot construction-free buffer around the nest for non-listed birds, 500-foot buffer for unlisted raptors, and a half-mile for listed bird species. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged. Variance from these setback distances may be allowed if a qualified biologist provides compelling biological or ecological reason to do so and if CDFW is notified in advance of implementation of a no disturbance buffer variance.

(Continued on next page.)
# 4.4 BIOLOGICAL RESOURCES (CONT’D)

(Continued from preceding page.)

d. **Tailgate Training for Workers.** All construction and operations workers on the Aquamarine Solar Project and Gen-Tie Line shall be trained by a qualified biologist. The tailgate training shall include a description of the Migratory Bird Treaty Act, instructions on what to do if an active nest is located, and the importance of capping pipes and pipe-like structures standing upright in order to avoid birds falling into the pipes and getting stuck.

e. **Capping of Hollow Poles and Posts.** Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Aquamarine project site, the poles shall be capped immediately after installation to prevent entrapment of birds.

### Mitigation Measure BIO-3: Burrowing Owl Protection

In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Aquamarine Solar Project and the Gen-Tie Line

<table>
<thead>
<tr>
<th>Mitigation Measure biod-3: Burrowing Owl Protection</th>
<th>Responsible Party/ Timing/Action</th>
<th>Monitoring Agency/ Timing/Action</th>
<th>Verification Log</th>
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<tbody>
<tr>
<td>a. <strong>Pre-Construction Surveys.</strong> Pre-construction surveys shall be conducted by a qualified biologist no more than 10 days prior to the onset of ground-disturbing activity. Pre-construction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted in accordance with the <em>Staff Report on Burrowing Owl Mitigation</em> (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones.</td>
<td>Aquamarine Solar Project and the Gen-Tie Line.</td>
<td>Responsible Party: Applicant/Contractor Actions: Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; 2) If active nest(s) found on or near site, authorize to establish exclusion zone(s) around nest(s); (Continued)</td>
<td>Monitoring Agency: Kings County CDA. Actions: Prior to Construction: 1) Verify completion of pre-construction surveys; 2) Conduct field inspection to verify establishment of exclusion zone(s); (Continued)</td>
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<tr>
<td>b. <strong>Avoidance of Active Nests during Breeding Season.</strong> If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer with a radius of not less than 50 meters and not more than 500 meters shall be established around all active owl nests. The specific dimensions of the exclusion zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity.</td>
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### 4.4 BIOLOGICAL RESOURCES (CONT’D)

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<th>Mitigation Measure</th>
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<tr>
<td>c. Avoidance of Occupied Burrows during Non-Breeding Season, and Passive Relocation of Resident Owls. During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of not less than 50 meters and not more than 500 meters around each active burrow. <strong>The specific dimensions of the exclusion zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity.</strong> Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.</td>
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<td>d. Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.</td>
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<td>4) Direct qualified biologist to conduct employee education program; 5) Implement mitigation, as needed, per recommendation of qualified biologist, in coordination with CDFW and Kings County CDA.</td>
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<tr>
<td>e. Mitigation for Loss of Burrowing Owl Habitat. If it is determined that burrowing owl nest(s) are located on or near the Aquamarine project site or Gen-Tie corridor, the biologist shall coordinate with the project applicant and resource agency to determine whether relocation of these nest(s) is unavoidable. If so, measure #1 below (off-site conservation easement) would apply. If the on-site or nearby nest(s) are to remain in place, the biologist shall determine whether sufficient foraging habitat is available on adjacent or nearby lands, and if so, no further mitigation is required. (Approximately 200 acres of year-round foraging habitat within about 2 miles of the burrowing owl burrow is required to support a burrowing owl pair.) If it is determined that there is insufficient nearby foraging habitat, the biologist shall determine the amount of on-site foraging habitat that is required to sustain the burrowing owl nest. In this case, the potential impact to foraging habitat shall be either avoided through implementation of measure #2 below (on-site buffer zone), or compensated through implementation of measure #1 (conservation easement) or measure #3 (long-term agreement on adjacent lands) below. <strong>(Continued on next page.)</strong></td>
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<td>3) Verify completion of employee education prior to ground disturbing activities; 4) Verify implementation of any required mitigation.</td>
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### 4.4 BIOLOGICAL RESOURCES (CONT’D)

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1) Establishment of a conservation easement with a 1:1 ratio for foraging/breeding habitat preservation. These easements would include habitats determined to be suitable for foraging and/or breeding year-round and seasonal use, and shall be implemented in accordance with the specifications contained in the CDFW “Staff Report on Burrowing Owl Mitigation” (2012). [https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline=true](https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline=true)

2) Establishment of permanent buffer zones of adequate size around current burrowing owl locations. These buffer zones would require adequate management for the life of the project and buffer zones to ensure the buffer area remains suitable for burrowing owls. Annual monitoring of the suitability of management activities may be required by CDFW.

3) Short- or long-term compensation for foraging habitat by providing farmers in adjacent lands incentives to plant particular crops known to be suitable forage habitat for burrowing owls (i.e., winter wheat, alfalfa, etc.) and to enact a farmer burrowing owl safety program where farmers are trained how to reduce burrowing owl mortalities on their lands and farm roads. A 1:1 ratio would be required to be in the program as long as the project is active.

**MM BIO-3 is Applicable To:** The Aquamarine Solar Project and the Gen-Tie Line.

### Mitigation Measure BIO-4: Swainson’s Hawk Protection

In order to minimize the potential for impacts to Swainson’s hawks, the following measures shall be implemented, as necessary, in conjunction with the construction of the Gen-Tie Line:

a. Pre-Construction Surveys. During the nesting season prior to the construction of the Gen-Tie Line within a half-mile of a potential nest tree, preconstruction surveys shall be conducted within the construction zones and adjacent lands to identify any nesting pairs of Swainson’s hawks. These surveys will conform to the guidelines of CDFW as presented in *Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley*, Swainson’s Hawk Technical Advisory Committee, May 31, 2000. No preconstruction surveys are required for construction activity located farther than a half-mile from a potential nest tree. **(Continued on next page.)**

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<th>Mitigation Measure</th>
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<td>1</td>
<td>Gen-Tie Line only.</td>
<td>Responsible Party: Applicant/Contractor Actions:</td>
<td>Monitoring Agency: Kings County CDA. Actions:</td>
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<td>2</td>
<td>Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; (Continued)</td>
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### Mitigation Measure BIO-5: American Badger Mitigation

The following measures shall be implemented to minimize impacts to the American badger, as necessary, in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

#### a. Preconstruction Surveys for American Badger

During the course of pre-construction surveys prescribed for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of construction. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers would be warranted.

#### b. Avoidance of Active Badger Dens and Monitoring

If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction, a construction-free buffer of 100 to 300 feet shall be established around the den. Once the biologist has determined that the badger(s) have vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present on-site during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor shall be required on-site until it is determined that young are of an independent age and construction activities would not harm individual badgers.

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### 4.4 BIOLOGICAL RESOURCES (CONT’D)

(Continued from preceding page.)

c. **Tailgate Training for Workers.** All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if an American Badger is observed.

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<th>Mitigation Measure</th>
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<th>Verification Log</th>
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<tr>
<td>c. Tailgate Training for Workers</td>
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<td>3) Direct qualified biologist to conduct employee education program</td>
<td>3) Verify completion of employee education prior to ground disturbing activities.</td>
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### 4.5 CULTURAL RESOURCES

**Mitigation Measure CR-1: Protection of Cultural Resources.** In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Aquamarine Solar Project and Gen-Tie Line:

a. **Cultural Resources Alert on Project Plans:** The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.

b. **Pre-Construction Briefing:** The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential prehistoric cultural material finds and on the procedures to be enacted if resources are found.

c. **Stop Work Near any Discovered Cultural Resources:** The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

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<th>Monitoring Agency</th>
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<tr>
<td>Kings County CDA.</td>
<td>Aquamarine Solar Project and the Gen-Tie Line</td>
<td>Prior to Issuance of Building Permit: 1) Place Cultural Resources Alert on project plans.</td>
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<th>Monitoring Agency</th>
<th>Responsible Party: Applicant/Contractor</th>
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<tr>
<td>Kings County CDA.</td>
<td>Aquamarine Solar Project and the Gen-Tie Line</td>
<td>Prior to Construction: 1) Arrange for Tribe to conduct pre-construction briefing.</td>
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<th>Monitoring Agency</th>
<th>Responsible Party: Applicant/Contractor</th>
<th>Actions:</th>
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<tbody>
<tr>
<td>Kings County CDA.</td>
<td>Aquamarine Solar Project and the Gen-Tie Line</td>
<td>During Construction: 1) If cultural resources discovered, establish 100-foot setback zone and contact archaeologist and Kings County CDA.</td>
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4.5 CULTURAL RESOURCES (CONT’D)

(Continued from preceding page.)

d. **Mitigation for Discovered Cultural Resources:** If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

e. **Native American Monitoring:** Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.

f. **Disposition of Cultural Resources:** Upon coordination with the Kings County Community Development Agency, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Mitigation Measure is Applicable To</th>
<th>Responsible Party/ Timing/Action</th>
<th>Monitoring Agency/ Timing/Action</th>
<th>Verification Log</th>
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<tbody>
<tr>
<td>d. Mitigation for Discovered Cultural Resources</td>
<td>2) Coordinate with Kings County CDA, archaeologist, and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate mitigation; 3) Coordinate with Santa Rosa Rancheria Tachi Yokut Tribe regarding monitoring during construction; 4) Coordinate with Kings County CDA and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate disposition of any cultural resources recovered from the site.</td>
<td>2) Coordinate with applicant, archaeologist, and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate mitigation; 3) Verify applicant has coordinated with Santa Rosa Rancheria Tachi Yokut Tribe regarding monitoring during construction; 4) Coordinate with applicant and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate disposition of any cultural resources recovered from the site.</td>
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### 4.5 CULTURAL RESOURCES (CONT’D)

**Mitigation Measure CR-2: Protection of Buried Human Remains.** In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of Aquamarine Solar Project and Gen-Tie Line:

- **a.** Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop in the vicinity of the find and the Kings County Coroner shall be notified immediately. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD). The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours to *for the MLD to make their wishes known to the landowner after being granted access to the site.* If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

- **b.** Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
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<th>Verification Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR-2</td>
<td>Aquamarine Solar Project and the Gen-Tie Line</td>
<td>Applicant/Contractor Actions:</td>
<td>Kings County CDA. Actions:</td>
<td></td>
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<td></td>
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<td>During Construction: 1) If human remains are discovered, engage project archaeologist and coordinate with Kings County CDA in implementing the legally required actions as specified in the mitigation measure.</td>
<td>During Construction: 1) If human remains are discovered, coordinate with applicant and archaeologist to ensure that all legally required actions are implemented.</td>
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</table>
# Mitigation Monitoring and Reporting Program

## Aquamarine Solar Project and Gen-Tie Line  CUP 17-04

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Mitigation Measure is Applicable To</th>
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## 4.7 GEOLOGY AND SOILS

**Mitigation Measure GEO-1a: Expansive Soils within Aquamarine Project Site.**
Prior to the issuance of the first building permit for each phase of the Aquamarine Solar Project, the applicant shall retain a qualified registered civil engineer to prepare a preliminary soils report, based on soil borings or excavations, to determine the potential for soils expansion and to prepare recommendations for corrective actions to mitigate potential damage to project structures due to potential soils expansion. The preliminary soils report shall be submitted to Kings County Community Development Agency Building Division for review and approval. The potential damage from soils expansion can be reduced by one or more of several alternative engineering measures, as recommended by the registered civil engineer. These measures could include: overexcavation and replacement with non-expansive soils; extending foundations below the zone of shrink and swell; chemically treating the soils with quicklime or cement; or foundation design measures. The corrective measures specified by would become conditions of Building Permit approval and would be subject to inspection and approval by the Kings County Building Official.

Aquamarine Solar Project only.

[MM GEO-1a is not applicable to the Gen-Tie Line.]

Responsible Party: Applicant/Contractor

**Actions:**
- Prior to Issuance of Building Permit:
  1) Authorize engineer to prepare soils report;
  2) Submit soils report to Kings County CDA for review and approval.

During Construction:
  1) Implements soils engineering measures recommended in soils report.

Monitoring Agency: Kings County CDA.

**Actions:**
- Prior to Issuance of Building Permit:
  1) Review and approve soils report as appropriate.
- During Construction:
  1) Conduct field inspections to verify implementation of soils engineering measures.

**Mitigation Measure GEO-1b: Expansive Soils within Gen-Tie Corridor.**
Prior to final project design for the Gen-Tie Line, the project proponent shall retain a qualified geotechnical engineer to undertake a soils investigation to determine the potential for soils expansion within the Gen-Tie corridor and to prepare recommendations and foundation design specifications to mitigate potential damage to project structures due to soils expansion.

Gen-Tie Line only.

[MM GEO-1b is not applicable to Aquamarine Project.]

Responsible Party: Applicant/Contractor

**Actions:**
- Same as for MM GEO-1a, above.

Monitoring Agency: Kings County CDA.

**Actions:**
- Same as for MM GEO-1a, above.
### 4.7 GEOLOGY AND SOILS (CONT’D)

**Mitigation Measure GEO-2: Protection of Paleontological Resources.** In order to avoid the potential for impacts to paleontological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Aquamarine Solar Project and Gen-Tie Line:

a. If paleontological resources are discovered during excavation activities at the project site, work within 100 feet of the find shall cease, and a qualified professional paleontologist shall be retained to evaluate the significance of the resources and make recommendations regarding the treatment, recovery, and curation of the resources, as appropriate. Treatment of any significant paleontological resources shall be undertaken with the approval of the Kings County CDA.

<table>
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<tr>
<th>Mitigation Measure</th>
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<tbody>
<tr>
<td>GEO-2</td>
<td>Aquamarine Solar Project and the Gen-Tie Line</td>
<td>Applicant/Contractor</td>
<td>Kings County CDA.</td>
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<tr>
<td><strong>Actions:</strong></td>
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<tr>
<td>During Construction:</td>
<td></td>
<td>1) If paleontological resources discovered, establish 100-foot setback zone, retain paleontologist to make recommendations regarding treatment, and notify Kings County CDA; 2) Submit treatment recommendations to Kings County CDA for approval as appropriate; 3) Implement approved treatment measures.</td>
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</table>

**Responsibility:**
- **Responsible Party:** Applicant/Contractor
- **Monitoring Agency:** Kings County CDA.
### 4.9 HAZARDS AND HAZARDOUS MATERIALS (CONT’D)

**Mitigation Measure HAZ-1: Protection from Hazardous Materials.** In order to protect the public from potential release of hazardous materials, the following measures shall be implemented during project construction, operation, and decommissioning:

a. The project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of, and to the satisfaction of, the Kings County Public Health Department Environmental Services Division;

b. The project applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the State Water Resources Control Board, and to the satisfaction of the Central Valley Regional Water Quality Control Board.

The potential for minor spills would be largely avoided through implementation of the Hazardous Materials Business Plan (HMBP), as required under the Hazardous Materials Release Response Plan and Inventory Act of 1985. Under this state law, the applicant is required to prepare an HMBP to be submitted to the Kings County Public Health Department, Environmental Health Services Division, which is the Certified Unified Program Agency (CUPA) for Kings County. The HMBP would include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP would include an inventory of the hazardous waste generated on site, and would specify procedures for proper disposal. As required, hazardous waste would be transported by a licensed hauler and disposed of at a licensed facility. According to the HMBP reporting requirements, workers must be trained to respond to releases of hazardous materials in accordance with State and federal laws and regulations governing hazardous materials and hazardous waste (e.g., HAZWOPER training required by OSHA). Any accidental release of small quantities of hazardous materials would be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. As the CUPA for Kings County, the Environmental Health Services Division of the County Public Health Department is responsible for implementation and enforcement of HMBPs. Implementation of the HMBPs for the Aquamarine Solar Project and Gen-Tie Line would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.

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<tr>
<th>Mitigation Measure</th>
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</thead>
<tbody>
<tr>
<td><strong>Aquamarine Solar Project and the Gen-Tie Line.</strong></td>
<td><strong>Responsible Party:</strong> Applicant/Contractor/Operator</td>
<td><strong>Monitoring Agencies:</strong> Kings County CDA and Kings County Public Health Department.</td>
<td><strong>Actions:</strong> Prior to Issuance of Building Permit: 1) Prepare HMBP and submit to Kings County Public Health Department for approval; 2) Prepare SWPPP and submit to CVRWQCB and Kings County CDA for review and approval. During Construction: 1) Implement approved SWPPP. During Project Operation: 1) Implement approved HMBP.</td>
<td><strong>Actions:</strong> Prior to Issuance of Building Permit: 1) Review and approve HMBP (Public Health); 2) Review and approve SWPPP (CDA). During Construction: 1) Conduct field inspections to verify implementation of SWPPP as approved (CDA). During Project Operation: 1) Conduct field inspections to verify implementation of HMBP as approved (Public Health).</td>
</tr>
</tbody>
</table>
### 4.9 HAZARDS AND HAZARDOUS MATERIALS (CONT’D)

**Mitigation Measure HAZ-2: Conduct Soil Sampling and Remediation as Applicable.** Prior to initiation of ground disturbing activities, soil samples shall be taken from areas of potential contamination and tested for hazard levels of constituents of concern, in accordance with work plans prepared by qualified professionals. Any soils that exceed regulatory limits for hazardous materials shall be removed or otherwise remediated prior to any ground disturbing activity, to the satisfaction of the responsible regulatory agencies in accordance with applicable laws and regulations.

- **Responsible Party:** Applicant/Contractor
- **Actions:**
  - Prior to Construction: 1) Retain qualified professional to conduct soil sampling and analysis, and to prepare a report of findings and recommendations; 2) Remediate any contaminated soils as directed by regulatory agencies.

**Monitoring Agency:** Kings County CDA.
- **Actions:**
  - Prior to Construction: 1) Review soil analysis report, and coordinate with applicant regarding further action; 2) Verify implementation of any approved remediation plan.

**Verification Log**

**Mitigation Measure HAZ-3: Preventing Valley Fever Exposure.** In order to protect the public and workers from Valley Fever, the following measures shall be implemented during project construction and decommissioning:

- **a.** Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.

- **b.** Provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication “Preventing Work-Related Coccidioidomycosis (Valley Fever),” available at [http://www.cdph.ca.gov/programs/hesi/Documents/CocciFact.pdf](http://www.cdph.ca.gov/programs/hesi/Documents/CocciFact.pdf)

- **Responsible Party:** Applicant/Contractor
- **Actions:**
  - Prior to Construction: 1) Prepare Dust Control Plan and submit to SJVAPCD and Kings County CDA for approval.
  - During Construction: 1) Implement Dust Control Plan; 2) Provide workers with respirators as recommended.

**Monitoring Agency:** Kings County CDA.
- **Actions:**
  - Prior to Construction: 1) Review and approve Dust Control Plan; 2) Verify implementation of any approved remediation plan.
  - During Construction: 1) Conduct field inspections to verify implementation of Dust Control Plan and distribution of respirators.
### 4.10 HYDROLOGY AND WATER QUALITY

**Mitigation Measure HYD-1: Stormwater Quality Protection.** Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a “Notice of Intent” (NOI) with the SWRCB to comply with the General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP for each project phase shall be prepared by a licensed engineer and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during the construction and post-construction phases of solar development. The SWPPP(s) required for decommissioning shall specify BMPs to be implemented during that final project phase. The construction contracts for each project phase, and for the decommissioning phase, shall include the requirement to implement the BMPs in accordance with the SWPPPs. The SWPPPs will specify such practices as: designation of restricted-entry zones, sediment tracking control measures (e.g., crushed stone or riffle metal plate at construction entrance), truck washdown areas, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, provision mulching for soil stabilization during construction, and provision for revegetation upon completion of construction within a given area. The SWPPPs will also prescribe treatment measures to trap sediment once it has been mobilized, such as straw bale barriers, straw mulching, fiber rolls and wattles, silt fencing, and siltation or sediment ponds. Upon completion of each solar block, the finished grades beneath and around the finished rows of solar panels will be revegetated with a native seed mix. The reestablished vegetated cover would stabilize the soils and minimize the potential for post-construction erosion. The SWPPPs are subject to approval by the Central Valley Regional Water Quality Control Board (CVRWQCB), which makes the final determination on which BMPs are required for the project. The construction contracts for each project phase, and for the decommissioning phase, will include the requirement to implement the BMPs in accordance with the SWPPPs, and proper implementation of the specified BMPs is subject to inspection by the Regional Board staff.

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<tr>
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<tbody>
<tr>
<td>Actions:</td>
<td>Prior to Construction:</td>
<td>1) File NOI; 2) Prepare SWPPP and submit to CVRWQCB and Kings County CDA for approval.</td>
<td>During Construction: 1) Implement SWPPP as approved.</td>
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<tr>
<td>Actions</td>
<td>During Construction: 1) Implement SWPPP as approved.</td>
<td>During Operation: 1) Implement SWPPP as approved.</td>
<td>During Decommissioning: 1) Conduct field inspections to verify implementation of SWPPP as approved.</td>
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<td></td>
<td>During Decommissioning: 1) Conduct field inspections to verify implementation of SWPPP as approved.</td>
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*Kings County Community Development Agency*
4.17 TRANSPORTATION

**Mitigation Measure TR-1a: Traffic Safety Measures for Solar Project Construction.**

As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department prior to initiation of construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic.

Traffic measures that shall be implemented during construction and decommissioning activities include the following:

a. Construction traffic shall not block emergency equipment routes.

b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following:

   i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods.

   ii. Identify approved truck routes for the transport of all construction- and decommissioning-related equipment and materials.

   iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM).

   iv. Provide for farm worker vehicle access and safe pedestrian and vehicle access.

   v. Provide advance warning and appropriate signage whenever road closures or detours are necessary.

c. Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour.

*(Continued on next page.)*
### 4.17 TRANSPORTATION (CONT’D)

(Continued from preceding page.)

d. Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a report prepared by a qualified transportation engineer that addresses the potential wear and tear on Fresno County roads caused by construction traffic generated by the Aquamarine Solar Project. The specific roadway improvements, if any, which are attributable to project construction traffic, shall be determined based on the conclusions of the report and as mutually agreed upon by the Kings County Community Development Agency, the Fresno County Department of Public Works and Planning, and the applicant. The applicant shall implement the agreed-upon roadway improvements at such time as agreed upon by the parties.

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<tbody>
<tr>
<td><strong>Mitigation Measure TR-1b: Traffic Safety Measures for Gen-Tie Construction.</strong></td>
<td>Gen-Tie Line only. [MM TR-1b is not applicable to Aquamarine Solar Project.]</td>
<td>Responsible Party: Applicant/Contractor</td>
<td>Monitoring Agencies: Kings County CDA, Public Works Department, and Fire Department.</td>
<td>Actions:</td>
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<td></td>
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<td><strong>Actions:</strong></td>
<td><strong>Actions:</strong></td>
<td>Prior to Construction: 1) Prepare Traffic Management Plan and submit to Kings County Public Works Department for approval.</td>
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</table>
KINGS COUNTY PLANNING COMMISSION
STAFF REPORT

Conditional Use Permit No. 17-14 Amendment
Development Code No. 668.13

APPLICANT: Lakeside Pipeline, LLC

PROPERTY OWNER: River Ranch Farms, LLC, 6127 Jackson Ave., Hanford, CA 93230

LOCATION: The proposed project is to be located at 15664 7th Avenue, Hanford, in the unincorporated area of Kings County, California. APN: 028-080-016

GENERAL PLAN DESIGNATIONS: General Agriculture (AG-20), 20-Acre Minimum

ZONE DISTRICT CLASSIFICATION: General Agricultural, 20-Acre Minimum (AG-20)

CONDITIONAL USE PROPOSED: The project proposes to install a biogas upgrading facility on an approximately 57,754 square foot portion (134 square feet by 431 square feet) of a 3.3-acre parcel (APN 028-080-016). The upgrading facility will consist of moisture removal, hydrogen sulfide (H₂S) scrubbing, carbon dioxide (CO₂) stripping, and biomethane compressors. Approximately 37 miles of low-pressure High-Density Poly Ethylene (HDPE) biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies. An interconnection and injection point will be connected to the existing Southern California Gas (SCG) pipeline SL 38-523. The equipment necessary for this is referred to as the Meter Set Assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use.

The proposed footprint of the biogas facility is 143 feet x 431 feet and will encompass approximately 1.32 acres. Staging areas will be located on the site.
Work will be conducted during the dry season, but irrigation flows are anticipated to be in the irrigation canal and will be diverted during construction. The project also includes approximately 37 miles of low-pressure biogas gathering lines, located along existing road rights of way or in private property.

**CURRENT USE OF SITE:**

The Project site is currently cultivated cropland.

**DISCUSSION:**

The Hanford-Lakeside Dairy Digester Cluster project proposes to construct a dairy biogas upgrading facility on an approximately 57,754 square foot portion (134 feet by 431 feet) of a 3.3-acre parcel (APN 028-080-016), to be located at 15664 7th Avenue within the unincorporated area of Kings County, California (Figure 2-2). The facility will consist of moisture removal, CO₂ stripping, and biomethane compressors. Gathering lines will move biogas from each participating dairy to the central upgrading facility (project). The lines will be run within private property or Kings County ROW. The 4 to 20-inch diameter pipes will be constructed of SDR-21 HDPE and will be buried at least 36 inches below grade. A blower controlled by a central SCADA system, at each dairy will push gas from the dairy into the gathering lines that will carry the gas to the biogas facility where impurities, moisture and gas constituents, not suitable for injection into the SCG pipeline, will be removed. The resulting biomethane will pass to the MSA, which includes gas quality monitoring, odorization, measurement and control equipment controlled via SCADA, at the interconnection and injection point and into the SCG pipeline.

Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies (Figure 2-3). The proposed footprint of the biogas facility is 134 feet by 431 feet and will encompass approximately 1.32 acres (Figure 2-4). Staging areas will be located on site. The facility will require upgraded or new electrical service from Pacific Gas and Electric to power the equipment.

The proposed project involves the capture of biogas generated via anaerobic digestion of dairy manure at each dairy. Biogas is a naturally-occurring mixture of primarily methane and carbon dioxide. Hydrogen sulfide (H₂S) will be scrubbed out of the gas at the dairy. The biomethane will be transported via low-pressure gas pipelines from the digester to the biogas upgrading facility’s on-site dewatering equipment and thence to the main gas upgrading equipment. Methane is not toxic, but handling methane can be hazardous. In addition, methane can be
flammable. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is flammable at concentrations between 5 percent and 15 percent in air. Unconfined mixtures of methane in air are not explosive; however, a flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses rapidly in air. Unintentional releases of biogas from dairy digester facilities or pipelines could pose risks to human health and safety. In the unlikely event that biogas is accidentally released into the atmosphere by a leak or rupture of the digester facility or pipe segments, it is possible that if the gas reaches a combustible mixture and an ignition source is present, a fire or explosion could occur resulting in injury or fatality. In addition, operation and maintenance of the dairy digester facility will involve the transport, use, storage, and disposal of small quantities of hazardous materials such as fuels, lubricants, and hydraulic fluids. Handling of hazardous materials are regulated by federal and State laws, as mentioned earlier, which minimizes worker safety risks from both physical and chemical hazards in the workplace.

LAND USE
SURROUNDING SITE:

The project site is located within an agricultural portion of the unincorporated County and is currently under crop cultivation.

The surrounding area is rural in nature, characterized as cultivated cropland, undeveloped lands, dairies and agricultural residences. The three closest agricultural residences are approximately ½ mile southeast, ½ mile to the southwest, and ½ mile north of the project site.

<table>
<thead>
<tr>
<th>Location</th>
<th>Existing Land Use</th>
<th>Existing General Plan and Zoning</th>
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</thead>
<tbody>
<tr>
<td>Project Site</td>
<td>Agriculture</td>
<td>AG-20 (General Agriculture- 20 District)</td>
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<tr>
<td>North</td>
<td>Existing agribusiness</td>
<td>AG (20)</td>
</tr>
<tr>
<td>East</td>
<td>Cultivated cropland</td>
<td>AG (20)</td>
</tr>
<tr>
<td>South</td>
<td>Cultivated cropland</td>
<td>AG (20)</td>
</tr>
<tr>
<td>West</td>
<td>Cultivated cropland</td>
<td>AG (20)</td>
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ENVIRONMENTAL REVIEW: A review of this project in compliance with the California Environmental Quality Act (CEQA) indicates that there may be significant adverse impacts to the environment; however, those impacts can be mitigated to less-than-significant level by implementing the mitigation monitoring program attached as Exhibit “A.” Implementation of Mitigation Measures (MMs) included within the Mitigation Monitoring and Reporting Program (MMRP) would reduce the project potential for adverse effects on the environment to less-than-significant levels. The environmental review period for the proposal ran from July 9, 2019 through August 9, 2019. A copy of the Initial Study/Mitigated Negative Declaration (IS/MND) is attached.

PROJECT REVIEW:

December 7, 2017  Application submitted
June 22, 2019  Application certified complete
July 9, 2019  Begin 30-day review period for environmental review
August 9, 2019  30-day environmental review period ends
September 9, 2019  Planning Commission hearing

STAFF ANALYSIS:

In order to approve this permit, the Commission is required to make the following findings pursuant to Section 1707 of the Kings County Development Code:

1. The proposed use is consistent with the General Plan.
2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the California Environmental Quality Act (CEQA).
3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or (b) there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.
4. The proposed conditional use complies with all applicable standards and provisions of this Development Code and the purposes of the district in which the site is located.
5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties, or improvements in the vicinity.
6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.
7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.
8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.

9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

With regard to these required findings, staff comments that:

1. The proposed use is consistent with the General Plan.

   **Finding:** The proposal conforms with the policies of the Kings County General Plan, specifically:

   A. Figure LU-11 of the *2035 Kings County General Plan* designates this site as General Agriculture 20-Acre Minimum.

   B. Page LU-13, Section III.A.1. of the “Land Use Element” of the *2035 Kings County General Plan* states that agricultural land use designations account for a vast majority of the County’s land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General agriculture 20-Acre Minimum, General Agriculture 40-Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service business. These designations preserve land best suited for agriculture, protect land from premature conversion, prevent encroachment of incompatible uses, and establish intensity of agricultural uses in manner that remains compatible with other uses within the County. The development of agricultural services and produce processing facilities within the Agricultural areas of the County shall develop to County Standards.

   C. Page LU-27, Section IV.B of the “Land Use Element” of the *2035 Kings County General Plan* states that Agricultural Open Space is the most extensive environmental category that displays the rural agricultural nature of the county. The agricultural land use designations (Limited Agriculture, General Agriculture 20 Acres, General Agriculture 40 Acres, and Exclusive Agriculture) are used to define distinct areas of agricultural intensity and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station. The physical development of agricultural properties is regulated and implemented by the Zoning Ordinance, in which the zone districts have the same designations: Limited Agriculture (AL-10), General Agriculture (AG-20 and AG-40), and Exclusive Agriculture (AX) are used. The minimum parcel size in the Exclusive Agriculture area is 40 acres. (Note: *Zoning Ordinance No. 269.69* was repealed and replaced when *Development Code No. 668* was adopted on March 3, 2015, and became effective on April 2, 2015.)

   D. Page LU-31, LU Objective B2.3 of the “Land Use Element” of the *2035 Kings County General Plan* states increase diversified business opportunities within agricultural areas when they are compatible with agricultural operations.

   E. Page LU-32, LU Policy B2.3.1 of the “Land Use Element” of the *2035 Kings County General Plan* states value added agriculturally related businesses may be allowed when the business operation is primarily associated with the commercial farming operation. Additional employees may be allowed to work at the business.
2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the *California Environmental Quality Act (CEQA)*.

**Finding:** Approval of Conditional Use Permit No. 17-14 (Lakeside Pipeline, LLC) is in compliance with the requirements of the *California Environmental Quality Act (CEQA)*. The proposed use should not be detrimental to public health and safety, or materially injurious to properties in the vicinity. An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for this project. The proposed project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring & Reporting Program (MMRP) attached to the Planning Commission Resolution for this project as Exhibit “A.” The IS/MND reflects the Planning Commission’s independent judgment and analysis.

3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.

**Finding:** The IS/MND did not identify any potentially significant environmental effects that cannot be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-02.

4. The proposed conditional use complies with all applicable standards and provisions of the Kings County Development Code and the purposes of the district in which the site is located.

**Finding:** Article 4, Section 407, Table 4-1, lists Biomass energy facilities as a conditional use within the General Agriculture 20-Acre Zoning Districts, subject to Planning Commission approval.

5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity.

**Finding:** The proposed use was subject to analysis pursuant to the *California Environmental Quality Act (CEQA)* and the CEQA Guidelines. An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared and circulated for a 30-day public comment period. With incorporation of mitigation measures, the proposed use will not result in any of the significant effects which are objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity. In addition to mitigation measures adopted as part of the Mitigation Monitoring & Reporting Program (MMRP), other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance.

6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by
reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.

**Finding:** The proposed facility will not be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion. This project proposes to install a biogas upgrading facility on an approximately 57,754 square foot portion (134 square feet by 431 square feet) of a 3.3-acre parcel (APN 028-080-016). The upgrading facility will consist of moisture removal, hydrogen sulfide (H₂S) scrubbing, carbon dioxide (CO₂) stripping, and biomethane compressors. Approximately 37 miles of low-pressure High-Density Poly Ethylene (HDPE) biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies. An interconnection and injection point will be connected to the existing Southern California Gas (SCG) pipeline SL 38-523. The equipment necessary for this is referred to as the Meter Set Assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The Initial Study/Mitigated Negative Declaration (IS/MND) did not identify any potentially significant environmental effects that can not be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-03. Other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance. Parking areas and driveways will be surfaced and maintained per County standards (see Planning Division Requirement No. 7-9 below). Lighting will be oriented and/or shielded to the interior of the site to prevent spillage onto nearby properties and rights-of-way. The combination of site design, mitigation measures, and other conditions of approval will result in minimization or elimination of injurious effects. The proposed use will be designed pursuant to the California Fire Code to ensure that the use does not involve undue risk of fire or explosion.

7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.

**Finding:** The proposed project will include the installation of onsite septic system facilities in compliance with the California Building Code and Kings County Plumbing Code (Ordinance No. 567.4 Section 5-82) to accommodate biogas upgrading facility. The system shall be designed by a qualified engineer (see Building Division Requirement No. 13 below).

8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.

**Finding:** This project as described in the IS/MND, will be required to comply with all applicable regulations of the SJVAPCD, including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review). The construction resulting from this project could temporarily increase emissions of PM₁₀ and thus a condition of approval will require that the project shall comply with SJVUAPCD Regulation VIII.

9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.
Finding: The site plan meets all of the criteria required by Section 1602.A.5, such that the locations, sizes, and functions of all proposed features can be ascertained.

STATEMENT OF FINDINGS OF CONSISTENCY:

1. LAND CONSERVATION (WILLIAMSON) ACT FINDINGS:

   A. The biogas facility site itself is not subject to a Williamson Act contract. However, the gathering pipeline route goes through several properties owned by the participating dairies, and several of these are subject to a land use contract. The Uniform Rules for Agricultural Preserves in Kings County state that during the term of the contract, the only uses permitted upon the land shall be Commercial Agricultural Uses and Compatible Uses. Section A.3.d of the Uniform Rules for Agricultural Preserves in Kings County lists operation of dairies as a Commercial Agricultural Use. In addition, Section A.3.g of the Uniform Rules for Agricultural Preserves in Kings County lists accessory structures and uses incidental to the operation of dairies as a Commercial Agricultural Use. The project would not conflict with the existing zoning for agricultural land use or a Williamson Act contract and future expansion of the proposed pipeline to other dairies would not result in conflict with existing zoning for agricultural land use or a Williamson Act contract.

2. FLOOD PLAIN FINDINGS:

   A. The site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0375C, dated June 16, 2009. There are no development restrictions associated with Area of Minimal Flood Hazard Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

3. AIRPORT COMPATIBILITY ZONE FINDINGS:

   A. The project site is not located within an Airport Compatibility Zone.

RECOMMENDATIONS:

It is recommended that the Commission approve Conditional Use Permit No. 17-14 as described above and adopt Resolution No. 19-03. Approval of this Resolution will:

1. Find that the proposed project may have significant adverse impacts on the environment and that those impacts can be mitigated to a less-than-significant level by implementing the Mitigation Monitoring & Reporting Program (MMRP) attached to the resolution as Exhibit “A,” and approve the Mitigated Negative Declaration.

2. Find that the project is consistent with the 2035 Kings County General Plan and the Kings County Development Code.

3. Approve the project with specified conditions of approval.
This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

This Conditional Use Permit shall lapse and shall become null and void one (1) year following the date on which the Conditional Use Permit became effective, unless prior to the expiration of one (1) year a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion of the site which was subject of the Conditional Use Permit application. A Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit’s expiration date.

For the information of the applicant, compliance with other adopted rules and regulations of any local or state regulatory agency shall be required by the Planning Commission. This includes but is not limited to the following:

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY – PLANNING DIVISION  Contact Chuck Kinney of the Kings County Community Development Agency – Planning Division at (559) 852-2674 regarding the following requirements:

1. All proposals of the applicant shall be conditions of approval if not mentioned herein.

2. The site plan for the project is approved in concept. However, it is understood that during the actual design of the project that either of the following minor alterations to the site plan may be necessary: 1) structural alterations; and/or 2) alterations to the location of structures. Any minor alterations shall comply with the following requirements:
   
   A. The site shall be developed in substantial compliance with the conceptually-approved site plan. Development of the site shall be considered substantially consistent with the approved conceptual site plan if any minor structural alteration is within ten (10) percent of the square footage shown on the conceptually approved site plan or up to a 2,500-square-foot increase in structural size, whichever is less, and the minor structural alteration complies with coverage standards.
   
   B. A minor alteration of the location of a structure shall be considered substantially consistent with the approved conceptual site plan if the new location of the structure complies with all setback requirements for the zone district that the project site is located in.
   
   C. Any minor alteration that would make it necessary to modify or change any condition of approval placed on the project would require resubmittal of the application to amend the approval of the Site Plan Review.
   
   D. No expansion of use, regardless of size, which would increase the projected scale of operations beyond the scope and nature described in this Conditional Use Permit application, will be allowed. Any expansion that is a substantial change from the conceptually-approved site plan will require either an amendment to the approved Conditional Use Permit or a new zoning permit.

3. The development shall comply with all regulations of Development Code No. 668.13, with particular reference to the General Agricultural (AG-20) Zone District standards contained in Article 4.

4. All signage must comply with Section 418.C of the Kings County Development Code. Signs shall
be located outside of the public right-of-way and shall not be located within a traffic safety visibility area if over three (3) feet in height. Unless a different setback is specified for a particular zone district, the minimum setback distance for all signs over three (3) feet in height shall be ten (10) feet from property lines.

5. Any exterior lighting shall be hooded so as to be directed only on-site. Pursuant to Section 418.E of the Kings County Development Code, exterior lighting shall be designed to be compatible with the architectural and landscape design of the project.

A. All new proposed uses shall preserve the existing nighttime environment by ensuring that the outdoor lighting for the use is so arranged and/or hooded as to reflect light away from adjoining properties.

B. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses, and shall be hooded, shielded, and located to direct light pools downward and prevent glare.

C. To achieve the desired lighting level for parking and pedestrian areas, the use of more short, low intensity fixtures is encouraged over the use of a few tall fixtures that illuminate large areas.

6. Pursuant to Section 418.F of the Kings County Development Code, all property owners and residents in Kings County are highly encouraged to participate in resource conservation efforts to help preserve and conserve dwindling natural resources. All property owners proposing new development within the agricultural zoning districts are encouraged to implement the following resource conservation measures, as applicable, as part of their development proposals.

A. Water Meters: The installation of water meters to encourage water conservation.

B. Stormwater Drainage: The integration of onsite stormwater drainage features such as small catch basins, rain gardens, and landscape depression basins into site plans to increase the stormwater detention.

C. Drought Tolerant Landscaping: The integration of drought tolerant landscaping and conservation fixtures with the structures to reduce the average per capita water use.

7. Parking shall be provided in accordance with Article 13, Table 13-1 of the Kings County Development Code and shall be installed in accordance with Kings County Improvement Standards. (Note: Accessible parking requirements are listed under Building Division Requirement Nos. 8 and 9 below.)

8. All drive approaches, parking areas, aisles, and driveways shall be provided prior to either: 1) initial occupancy of the site; or 2) the final inspection.

9. Pursuant to Section 303.G of the Kings County Improvement Standards all parking areas, aisles, and driveways shall be surfaced and maintained so as to provide a durable, dustless surface. Section 303.G. and Drawing 3036 of the Kings County Improvement Standards requires two (2) inches of Type “B” Asphalt Concrete over four (4) inches of Class 2 aggregate base over six (6) inches of R-50 Native @ 95% compaction under the “Heavy Use conditions”.
10. Accessible parking spaces shall be located so as to minimize the travel distance to the use's primary entrances for access. Required off street accessible parking spaces, and standards for those spaces, shall meet state standards.

11. Pursuant to Article 4, Section 418.B.5 of the *Kings County Development Code* the following are required for landscaping in Agricultural Zoning District:

   A. In all Agricultural Zoning Districts, as stated in Article 15, all new construction and rehabilitated landscape projects installed after January 1, 2010 are subject to and shall comply with the “California Model Water Efficient Landscape Ordinance”.

12. Pursuant to Section 418.B of the *Kings County Development Code*, the project shall comply with the following requirements pertaining to fencing and gates:

   **Fences, Walls, and Hedges** exceeding six feet in height shall be permitted except that fences, walls, and hedges shall not exceed three feet in height within a Traffic Safety Visibility Area as defined in Article 25 of this Development Code.

   **Gates** shall be permitted as follows:

   A. Gates which are used for the primary vehicular ingress and egress and which are opened and closed manually shall be setback so that the greater of the following distances are met from the property line being used for access:

      1) A minimum distance of 20 feet.

      2) A distance sufficient to ensure that vehicles used for a permitted use requiring a Site Plan Review or Conditional Use permit are able to pull completely onto their property.

   B. Gates used for the primary vehicular ingress and egress and which are opened and closed electronically with a remote control may be located within any portion of the property being used for access to a driveway provided that:

      1) The property owner/occupant shall obtain a building permit from the building department for the installation of the electric gate operating mechanism and wiring. The property owner/occupant must also request and obtain a final inspection for the assigned building permit and demonstrate operation of the mechanism using the remote.

      2) The gate must be operational at all times using a remote control device that allows the property owner/occupant to open and close the gate to enter the driveway area without exiting the vehicle.

      3) At any time that the gate is not operational using the remote control device the gate must either be locked in the open position or it must be removed entirely.

   C. Access gates to property which are not the primary vehicular ingress and egress such as an access gate to a rear yard to allow the parking of an RV, boat or similar use or for equipment access to be used in maintenance of the property do not require additional setback from the property line.
Secondary access gates shall have locking mechanisms accessible only from the interior side of the gate.

13. All open and unlandscaped portions of the lot shall be maintained in good condition, free from weeds, dust, trash and debris.

14. The minimum yard requirements from property line to a structure shall be as follows:
   
   A. The minimum front yard setback for occupied structures shall be not less than fifty (50) feet from the public road right-of-way line or the property line if not fronting on a public road right-of-way. The minimum front yard setback for non-occupied uses shall be not less than thirty-five (35) feet from the public road right-of-way or property line if not fronting on a public road right-of-way.
   
   B. The minimum side yard setback shall be ten (10) feet from the side property line for interior sites. The minimum side yard setback shall be twenty (20) feet from the public road right-of-way line on the street side of a corner site.
   
   C. The minimum rear yard setback shall be ten (10) feet from the rear property line.

15. The minimum distance between structures shall be ten (10) feet.

16. All mitigation measures in the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Plan that pertains to CUP No. 17-14 are adopted as conditions of this approval, and included in the Conditional Use Permit.

17. The applicant shall comply with all requirements of, and obtain any necessary permits from, the San Joaquin Valley Air Pollution Control District (SJVAPCD). Questions concerning SJVAPCD requirements should be direct to Georgia Stewart at (559) 230-5937.

18. The applicant shall comply with all requirements of, and obtain any necessary permits from, the California Regional Water Quality Control Board (CRWQCB). Questions concerning CRWQCB requirements should be directed to David Sholes at (559) 445-6279.

19. The applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and Department of Environmental Health Services, and all other local and state regulatory agencies.

20. Pursuant to Section 14-38(d) of the Kings County Code of Ordinances, a “Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings” shall be signed, notarized, and recorded.

21. Pursuant to Section 66020(d)(1) of the California Government Code, the owner is hereby notified that the 90-day approval period in which the applicant may protest the imposition of fees, dedications, reservations, or other exactions, begins on the date that this resolution is adopted.

22. Sales, use, or transactions tax may apply to business activities on the site. The applicant may seek written advice regarding the application of tax to your particular business by writing to the nearest State Board of Equalization office. For general information, please call the Board of Equalization
23. Within eight (8) days following the date of the decision of the Kings County Planning Commission, the decision may be appealed to the Kings County Board of Supervisors. The appeal shall be filed with the Clerk of the Board of Supervisors.

24. This Conditional Use Permit shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) years the proposed use has been established. A Conditional Use Permit involving construction shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) year a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application.

25. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit’s expiration date.

26. This approved conditional use permit shall run with the land and shall continue to be valid upon change of ownership of the site which was the subject of the Conditional Use Permit approval.

27. This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

**OTHER STANDARDS AND REGULATIONS:**

In addition to the above Development Code requirements, other standards and regulations affecting this project are listed below. These requirements are not part of this zoning approval. However, compliance is required by the departments and agencies listed below. Appeals for relief of these standards and regulations must be made through that department’s or agency’s procedures, not through the Development Code procedures.

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - BUILDING DIVISION** Contact Darren Verdegaal at the Kings County Community Development Agency - Building Division at (559) 852-2683, regarding the following requirements:

1. Building permits must be obtained from the Building Division of the Kings County Community Development Agency for any structures, plumbing, electrical, or mechanical work.

2. Failure to obtain a building permit for any structure, prior to commencing construction, which requires a building permit, will result in the payment of a double fee. Payment of such double fee shall not relieve any person from fully complying with the requirements of Kings County Code of Ordinances, Chapter 5 in the execution of the work or from any other penalties prescribed therein.

3. A minimum of two (2) sets of plans and calculations signed by an architect or engineer licensed to practice in the State of California shall be required for all structures.
4. All special inspection reports shall be provided to the Building Division prior to requesting a final inspection.

5. The applicant is responsible for contacting the Building Division to request a final inspection of the structures prior to occupying the structures and prior to startup of the operation. No building or structure shall be used or occupied until the Building Division has issued a Certificate of Occupancy.

6. All drive approaches and durable dustless surfaces shall be installed prior to the final inspection and maintained as per County Standards.

7. An accessible restroom shall be provided and shall comply with Section 1115B of the California Building Code.

8. Pursuant to Section 1129B of the California Building Code, one (1) van accessible parking space, allowing room for individuals in wheelchairs, on braces or crutches to get in and out of an automobile onto a level surface, suitable for wheeling and walking shall be provided. The parking space shall be 9 feet x 20 feet with an 8-foot wide loading and unloading aisle placed on the side opposite the driver’s side. The surfacing of the parking space, loading and unloading aisle and the accessible path from the space to the entrance of the building shall be either asphalt concrete or concrete.

9. The development shall comply with all applicable Americans with Disabilities Act (ADA) requirements, especially Section 1127B of the California Building Code, which states that site development and grading shall be designed to provide access to all entrances and exterior ground-floor exits, and access to normal paths of travel. The accessible route of travel shall be the most practical direct route between accessible building entrances, accessible site facilities and the accessible entrance to the site, including but not limited to access from the accessible parking space to accessible building entrances.

10. A soils report, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

11. The facility shall meet the requirements of the State of California Model Water Efficient Landscape Ordinance. Landscape and irrigation plans shall be provided to the Community Development Agency for review and approval prior to building permit issuance.


13. A septic system design, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

14. School fees based on square footage of building shall be added to the cost of the building permit, unless the school district provides an exemption from the school fees.

15. The site, as well as the buildings, shall be made accessible and usable by the disabled according to the California Building Code Chapter 11B.
16. The tenant, lessee and/or owner are responsible for compliance with the Americans with Disabilities Act, ADA. By federal law, the facility shall be made accessible to the highest degree possible.

17. Public Facilities Impact Fees for the building shall be payable at the time of the issuance of the building permit.

KINGS COUNTY PUBLIC WORKS DEPARTMENT  Contact Mike Hawkins of the Kings County Public Works Department at (559) 852-2708 regarding the following requirements:

1. All requirements required hereafter shall conform to the Kings County Improvement Standards.

2. All other alternatives to Public Works requirements must be approved by the Kings County Public Works Department.

3. That access to the site from a public road must be provided, and must be approved by the Kings County Public Works Department.

4. The applicant shall obtain an encroachment permit from the Kings County Public Works Department.

5. Drive approaches shall be constructed in accordance with Section 205 of the *Kings County Improvement Standards* and shall be asphalt concrete.

6. Durable and dustless surfacing shall be constructed for all roads constructed on site.

7. Fencing shall be placed outside of the County right-of-way not closer than 1 foot to the right of way line.

8. The owner shall dedicate an additional five (5) feet of right-of-way along 7th Avenue to a total half width of thirty (30) feet.

9. Gates at access points shall be indented per the Kings County Development Code.

10. Applicant/Owner shall maintain fence line and adjacent County road shoulder in a weed free condition.

11. All drainage shall be contained on-site in accordance with Section 404-C. Finished grade shall not slope towards 7th Avenue.

12. Drive approach shall be constructed so as storm drainage shall flow towards property.

13. Any installation of Biogas Gathering lines within the County Right-Of-Way shall require a County Encroachment permit approved by the County Board of Supervisors. This Encroachment Permit application shall be filed with the County Public Works Department.
KINGS COUNTY FIRE DEPARTMENT  Contact Rick Levy of the Kings County Fire Department at (559) 852-2885 regarding the following requirements:

1. Any fire suppression systems will need to meet all applicable State and Kings County Fire Department requirements.

2. The fire protection system, including fixed and portable extinguishing systems must be up to date on required annual fire inspections and tests and be approved by the Kings County Fire Department.

3. Four-inch reflective address numbers at the main street side entrance shall be installed pursuant to Section 505.1 of the California Fire Code.

4. Where gates are provided, a means of Fire Department entry shall be provided. Manual gates shall have a Fire Department Knox key lock provided. Powered gates shall be provided with a Fire Department Knox access override system. Gates shall open inward and gate entrances shall be 4 feet wider than the lane serving the gate and be located a minimum of 30 feet from the roadway to allow a vehicle to stop without obstructing traffic. A Knox pad lock shall be placed on chained gates or Knox box with gate access keys mounted at the main entrance for Fire Department access.

5. Employees shall be familiar with the use of fire safety equipment.

6. The biogas facility shall be kept clear of combustible weeds and debris.

7. All plans shall comply with the California Fire Code and all regulations of the Kings County Fire Department.

8. Any future development must comply with applicable Fire Code, including rural firefighting water supply requirements.

9. No structure shall be located farther than 150 feet from fire apparatus access. Access roads and adequate turnaround provisions shall be provided if fire apparatus access distance is exceeded.

10. Fire Department reserves the right to amend existing comments or requirements or add additional comments or requirements depending upon the hazards involved with the project.

KINGS COUNTY HEALTH DEPARTMENT Contact Troy Hommerding of the Kings County Department of Environmental Health Services at (559) 852-2627 regarding the following requirements:

1. Coccidiodes immiti, the fungus that causes valley fever, a serious and potentially long-term respiratory illness, is endemic in the soils of Kings County. Construction activities that disturb soils containing the spores of the fungus can put workers and the nearby public at risk. Effective dust control must be maintained on the job site at all times in order to reduce the risk of valley fever to workers and nearby residents. More information regarding the prevention of work related valley fever is available at https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/ValleyFeverFactSheet.pdf  Contact the San Joaquin Valley Air Pollution Control District for more information on dust control techniques.
2. If hazardous materials at or above threshold reporting quantities (55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas) will be kept on site, the facility must file a Hazardous Materials Business Plan online at http://cers.calepa.ca.gov within 30 days of beginning operations. Hazardous materials are broadly defined, and include fuel, lubricants, antifreeze, motor vehicle batteries, welding gases, paints, solvents, glues, agricultural chemicals, etc. Please contact our office if you require assistance with the online registration process.

3. If the construction will include any new onsite sewage disposal system, then three copies of construction plans for the septic system, including percolation test results, must be provided to our office for review and approval prior to construction. A plan check application form is available at our website: https://www.countyofkings.com/departments/health-welfare/environmental-health-services-1

4. Any plumbing fixtures, such as hand wash sinks, used by employees for personal use must have bacteriologically safe water. Sinks should be limited to handwashing only and should be posted with signage indicating that the water is suitable for washing and general cleaning, but not recommended for drinking. Bottled water or other potable source must be provided for drinking. If drinking water will be provided to 25 employees or more for 60 days or more over a calendar year, then the facility may require a public water system permit from our office.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT: Contact Georgia Stewart of the SJVAPCD at (559) 230-5800 concerning the following requirements.

1. The applicant shall comply with all San Joaquin Valley Air Pollution Control District regulations including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review) and Regulation VIII.

PREPARATION:

Prepared by the Kings County Community Development Agency (Chuck Kinney) on September 5, 2019. Copies are available for review at the Kings County Community Development Agency, 1400 W. Lacey Blvd., Government Center, Hanford, California 93230 or at the Kings County Clerk's Office, Government Center, Hanford, California.
CONDITIONAL USE PERMIT NO. 17-14
DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

HANFORD-LAKESIDE DAIRY DIGESTER
CLUSTER PROJECT
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Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613 SCH #
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

Project Title: Hanford-Lakeside Dairy Digester Cluster Project; Lakeside Pipeline, LLC. Conditional Use Permit No. 17-14
Lead Agency: Kings County Community Development Agency Contact Person: Chuck Kinney, Deputy Director - P
Mailing Address: 1400 West Lacey Boulevard, Building #8 Phone: 559-852-2674
City: Hanford Zip: 93230 County: Kings

Project Location: County: Kings, City/Nearest Community: Hanford
Cross Streets: 7th Avenue and Jersey Avenue, Zip Code: 93230
Longitude/Latitude (degrees, minutes and seconds): 36° 14' 44.28" N / 119° 35' 3.02" W Total Acres:
Assessor's Parcel No.: 028-080-016 Section: 28
Within 2 Miles: State Hwy #: 43 Twp.: 19S Range: 22E
Waterways: Cross Creek Base: MDB&M
Railways: BNSF Schools: Lakeside Elementary

Document Type:
- CEQA: [ ] NOP [ ] EIR [ ] Supplement/Subsequent EIR [ ] Mit Neg Dec Other: [ ] NEPA: [ ] NOI [ ] Other: [ ] Joint Document
- Early Cons [ ] Draft EIR [ ] Other: [ ] Final Document
- Neg Dec (Prior SCH No.) [ ] EA [ ] Other: [ ]
- Mit Neg Dec [ ] Draft EIS [ ] Other: [ ] FONSI

Local Action Type:
- General Plan Update [ ] Specific Plan [ ] Rezone [ ] Annexation
- General Plan Amendment [ ] Master Plan [ ] Prezone [ ] Redevelopment
- General Plan Element [ ] Planned Unit Development [ ] Use Permit [ ] Coastal Permit
- Community Plan [ ] Site Plan [ ] Land Division (Subdivision, etc.) [ ] Other:

Development Type:
- Residential: Units ______ Acres ______ [ ] Transportation: Type
- Office: Sq.ft. Acres Employees ______ [ ] Mining: Employees ______
- Commercial: Sq.ft. Acres Employees ______ Power: Type ______
- Industrial: Sq.ft. Acres Employees ______ [ ] Waste Treatment: Type ______
- Educational: ______ ______ ______ ______ [ ] Other: Biogas
- Recreational: ______ ______ ______ ______
- Water Facilities: Type ______ MGD ______

Project Issues Discussed in Document:
- Fiscal [ ] Recreation/Parks [ ] Vegetation
- Agricultural Land [ ] Schools/Universities [ ] Water Quality
- Air Quality [ ] Septic Systems [ ] Water Supply/Groundwater
- Archeological/Historical [ ] Sewer Capacity [ ] Wetland/Riparian
- Biological Resources [ ] Soil Erosion/Compaction/Grading [ ] Growth Inducement
- Coastal Zone [ ] Solid Waste [ ] Land Use
- Drainage/Absorption [ ] Toxic/Hazardous [ ] Cumulative Effects
- Economic/Jobs [ ] Public Services/Facilities [ ] Other: Energy, Wildfire

Present Land Use/Zoning/General Plan Designation:

Project Description: (please use a separate page if necessary)
The Hanford-Lakeside Dairy Digester Cluster Project is a dairy biogas collection & biomethane injection project. The biogas collected by this project will come from individual dairy digesters located on up to 18 nearby dairy farms. Each of these digesters will be separately permitted as part of the farming operation. The project proposes to install a biogas upgrading facility on an approximately 62,235 square foot (1.43 acre) portion of a 3.3-acre parcel (APN #028-080-016), which will host the biogas upgrading & metering equipment (for delivery into the adjacent Southern California Gas Company (SCG) transmission pipeline. In addition to the project site, the application covers approximately 37 miles of buried biogas gathering lines connecting to the dairies and installed on a variety of parcels that may include private land or public ROWs.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Revised 2010
Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X". If you have already sent your document to the agency please denote that with an "S".

X  Air Resources Board
X  Caltrans District #6
X  Caltrans Division of Aeronautics
X  Central Valley Flood Protection Board
X  Coachella Valley Mtns. Conservancy
X  Conservation, Department of
X  Corrections, Department of
X  Education, Department of
X  Energy Commission
X  Fish & Game Region 
X  Forestry and Fire Protection, Department of
X  General Services, Department of
X  Health Services, Department of
X  Housing & Community Development
X  Native American Heritage Commission

Office of Historic Preservation
Office of Public School Construction
Parks & Recreation, Department of
Pesticide Regulation, Department of
Public Utilities Commission
Regional WQCB 
Resources Agency
Resources Recycling and Recovery, Department of
S.F. Bay Conservation & Development Comm.
San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
San Joaquin River Conservancy
Santa Monica Mtns. Conservancy
State Lands Commission
SWRCB: Clean Water Grants
SWRCB: Water Quality
SWRCB: Water Rights
Tahoe Regional Planning Agency
Toxic Substances Control, Department of
Water Resources, Department of

Other: SJVAPCD
Other:

Local Public Review Period (to be filled in by lead agency)

Starting Date July 9, 2019  Ending Date August 9, 2019

Lead Agency (Complete if applicable):

Consulting Firm:  Applicant:
Address:  Address:
City/State/Zip:  City/State/Zip:
Contact:  Phone:
Phone: 

Signature of Lead Agency Representative:  Date: 7-1-19

CONDITIONAL USE PERMIT NO. 17-14
DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

HANFORD-LAKESIDE DAIRY DIGESTER CLUSTER PROJECT HANFORD-LAKESIDE DAIRY DIGESTER CLUSTER PROJECT

Prepared for:
Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, California 93230
Contact Person: Chuck Kinney, Deputy Director - Planning
Phone: (559) 852-2674

Consultant:

5080 California Avenue, Suite 220
Bakersfield, CA 93309
Contact: Jaymie Brauer
Phone: (661) 616-2600

July 2019

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project #180060
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**Project Name**

Conditional Use Permit No. 17-14 for the proposed Hanford-Lakeside Dairy Digester Cluster Project; Lakeside Pipeline, LLC

**Project Location**

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California; approximately 3.5 miles southeast of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016). The project also includes approximately 37 miles of buried biogas gathering pipelines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages.

The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE ¼ of SE ¼ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet above mean sea level (AMSL).

**Project Description**

The project proposes to install a biogas upgrading facility on an approximately 62,235 square foot portion (461 square feet by 135 square feet) of a 3.3-acre parcel (APN 028-080-016). The upgrading facility will consist of moisture removal, hydrogen sulfide (H₂S) scrubbing, carbon dioxide (CO₂) stripping, and biomethane compressors. Approximately 37 miles of low-pressure High-density polyethylene (HDPE) biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies. An interconnection and injection point will be connected to the existing Southern California Gas (SCG) pipeline SL 38-523. The equipment necessary for this is referred to as the meter set assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use.

The proposed footprint of the biogas facility is approximately 461 feet by 135 feet and will encompass approximately 1.43 acres. Staging areas will be located on the site.

Work will be conducted during the dry season, but irrigation flows are anticipated to be in the irrigation canal and will be diverted during construction. The project also includes approximately 37 miles of low-pressure biogas gathering lines, located along existing road rights of way or in private property (Figure 2-3).
For the environmental analysis, the biogas upgrade facility and the approximately 37 miles of gathering pipelines will be referred to as the "project."

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at the Kings County Community Development Agency located at 1400 W. Lacey Blvd., Engineering Building No. 6, Hanford, CA 93230.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on Tuesday July 9, 2019 and ended on Friday, August 9, 2019. For further information, please contact Chuck Kinney at 559-852-2674.
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MITIGATED NEGATIVE DECLARATION

As Lead Agency under the California Environmental Quality Act (CEQA), the Kings County Community Development Agency (Kings County) reviewed the project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, “[s]ignificant effect on the environment” means 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.

Project Name

Conditional Use Permit No. 17-14 for the proposed Hanford-Lakeside Dairy Digester Cluster Project; Lakeside Pipeline, LLC

Project Location

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California; approximately 3.5 miles southeast of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016). The project also includes approximately 37 miles of buried biogas gathering pipelines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages.

The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE ¼ of SE ¼ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet above mean sea level (AMSL).

Project Description

The Hanford-Lakeside Dairy Digester Cluster project is a dairy biogas collection and biomethane injection project. The biogas collected by this project will come from individual dairy digesters located on up to 18 nearby dairy farms. Each of these digesters will be separately permitted as part of the farming operation and are out of the scope of this application. The project proposes to install a biogas upgrading facility on an approximately 62,235 square foot (1.43 acre) portion of a 3.3-acre parcel (APN #028-080-016), which will host the biogas upgrading and metering equipment (for delivery into the adjacent Southern California Gas Company (SCG) transmission pipeline. References to the project includes both the biogas facility site and the pipeline route.

In addition to the project site, the application covers approximately 37 miles of buried biogas gathering lines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public ROWs. The pipeline route will also bisect several
County roads and drainages. Either a jack-and-bore method underneath the roads and drainages or an open cutting of the roads and drainages will be employed in order to install the pipe across these features. All work within the County ROW would be subject to obtaining an encroachment permit or franchise agreement through County Public Works Department.

For this environmental analysis, unless specifically differentiated, the biogas upgrade facility and the approximately 37 miles of gathering pipelines will be referred to as the “project” or “project area.”

**Dairy Facility**

At each of the 18 dairy facilities, the project proposes to install a small blower and scrubbing facility. The total footprint of this facility will be no larger than 40 feet x 40 feet. It may contain a 30-foot x 30-foot steel building for the equipment, or just a concrete slab and gravel for the equipment area.

**Upgrading Facility**

The project proposes to install the biogas upgrading facility on APN 028-080-016. The upgrading facility will consist of moisture removal, CO₂ stripping, and biomethane compressors. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use and sourced from experienced vendors. The proposed footprint is 461 feet x 135 feet (62,235 square feet or 1.43 acres). Access would be taken from a private drive approach from 7th Avenue. An emergency entrance from 7th Avenue with a crash-gate will provide secondary access to the facility.

**Interconnection and Injection Point (MSA) and Product Gas Compression**

The project proposes to install an interconnection and injection point with SCG pipeline SL 38-523. The equipment necessary for this is referred to by SCG as the meter set assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The interconnection point is shown in the attached facility layout.

In addition to metering and other control equipment described above, the MSA/PGMU will include a primary and backup product gas compressor installed and operated by SCG to compress the newly cleaned biogas to the pressure needed (275 PSI) to inject into to the SCG pipeline.

All portions of the project will comply with Pipeline and Hazardous Materials Safety Administration (PHMSA) guidelines, 49 CFR Part 192, and with the CPUC’s Safety Enforcement Division (SED) purview, CPUC General Order 112-F.
**Gathering Lines**

The project proposes to install about 37 miles of low-pressure HDPE biogas gathering lines. Gathering pipeline system is considered a Class 1 pipeline (due to the low population density within which it traverses) and is classified as non-jurisdictional gathering per the PHMSA regulations. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project. Pipelines will be run in private property or in some cases parallel or crossing Kings County ROWs and several existing drainages. All work within the County ROW would be subject to obtaining an encroachment permit or franchise agreement through County Public Works Department.

**CONSTRUCTION**

Construction is anticipated to take approximately 9-10 months to complete. Based on an average 20 workdays a month, the construction would take approximately 200 days to complete.

During construction, an anticipated 15 to 20 employees will be onsite. Traffic to the project site is anticipated to be approximately 20 round trips per day. Approximately four additional diesel trucks with construction equipment and materials would occur on a daily basis.

Staging areas are proposed to be located on the site. The facility will require upgraded or new electrical service from PG&E to power the equipment.

**Construction Equipment**

It is anticipated that the following pieces of equipment would be used during construction activities:

- Mini excavator
- Scraper
- Self-propelled compactor
- Grader
- Loader
- Service truck
- Air compressor
- Trencher
- Mobile generator
- HDPE welding machine

**Water Usage**

An estimated 100,000 gallons/day is anticipated during approximately 25 days of construction activities, and approximately 1,000 gallons/day for the remaining 125 days. Construction would require a total 8.0 AF of water (100,000 gallons x 25 days = 2.5 million gallons; 1,000 gallons x 125 days = 125,000 for a total 2.625 million gallons).
**Operations**

**Dairy Facility**

The biogas is produced by the digester at ambient temperature and just slightly above atmospheric pressure. From the digester, it’s piped through a biogas filter and condensation trap to remove any particulates and condensation. Next, it’s pulled through a condenser to lower the temperature of the gas to condense out additional moisture and dry the gas for sending down the gathering pipelines. After condensation, the biogas blower pressurizes the gas to no more than 20 pounds per square inch (PSI) and sends it through a media-based hydrogen sulfide (H₂S) scrubber to lower the H₂S below levels hazardous to human health. After the scrubber, the gas is sent down the gathering pipelines to the cleanup facility. Each blower will be controlled by a central supervisory control and data acquisition (SCADA) system that is overseen by operators on a 24/7 basis. Additionally, flow meters will be installed at each digester site and at the upgrading facility to monitor biogas flows.

**Upgrading Facility**

The upgrading facility removes impurities, moisture, and gas constituents that are not suitable for injection into the SCG pipeline. The biogas first enters a moisture condensation trap, is then compressed and sent through a CO₂ stripper. This process transforms biogas to biomethane, which is indistinguishable from conventional natural gas. The final step is a compressor to reach the injection pressure needed to enter the SCG pipeline.

The facility will create up to 400 gallons per day of biogas condensate and oil/water mix from the biogas condensation unit and the compressor oil and water separators. This liquid waste will be composed primarily of water nonhazardous and will be handled only by trained personnel. This liquid waste will be stored in a marked tank at the facility and disposed of in accordance with State, local, and federal regulations.

The facility will also create up to 250 gallons per quarter of waste compressor oil. This will be stored onsite in a marked tank and disposed of in accordance with State, local, and federal regulations.

**Interconnection and Injection Point (MSA) and Product Gas Compression**

The MSA measures, odorizes, and controls the biomethane gas flow into the SCG pipeline. This equipment will be controlled by SCG via SCADA. SCG will monitor gas quality on a 24 hour/7 days a week basis using this equipment. If at any point the biomethane is not within the SCG Rule 30 Standards, the equipment automatically closes the injection valve and the biomethane is not injected into the pipeline. There is an emergency stop button at each dairy site and the central hub that will immediately shut down the blowers if depressed. If the blowers aren’t operating, nothing flows into the pipeline.
**Gathering Lines**

The gathering lines move biogas from each participating dairy to the central upgrading facility. As noted previously, gathering pipeline system are considered a Class 1 pipeline and is classified as non-jurisdictional gathering per the PHMSA regulations. The lines will range in size from four inches to 20 inches and will be constructed of SDR-21 HDPE. The lines will be buried at least 36 inches below grade and will be marked with tracer wire. Each dairy will have a blower to push gas from that dairy into the gathering lines at pressure of less than 20 psi. Each blower will be controlled by a central SCADA system that is overseen by operators on a 24 hour/7 days a week basis. When a blower increases in speed, more biogas is pushed to the upgrading facility, and when it decreases, less biogas is sent.

The blowers are rated to a maximum 20 PSI and will not exceed that pressure. The gathering lines will be pressure monitored via SCADA equipment in real time to detect leaks or major failures. Flow meters at each site and the upgrading facility will monitor flows. As noted above, if a leak is detected or if there is an issue with the biogas quality, there is an emergency stop button. In the case of a blower failure, the transportation of biogas from the associated digester will not be possible. Other digesters may still be able to deliver their biogas to the central cleanup facility.

For the associated digester, prolonged downtime will result in a build-up of biogas under the digester cover. If digester pressures increase significantly, the digester will be vented to prevent damage to the cover and uncontrolled release of biogas.

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SCADA = Supervisory Control and Data Acquisition

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<td>80%</td>
<td>70.20</td>
</tr>
<tr>
<td>Compressor #1 Fan Motor</td>
<td>10 hp</td>
<td>VFD</td>
<td>7.5</td>
<td>80%</td>
<td>7.00</td>
</tr>
<tr>
<td>Compressor #1 Pre-lube</td>
<td>.5 hp</td>
<td>SS</td>
<td>0.4</td>
<td>80%</td>
<td>0.40</td>
</tr>
<tr>
<td>Heat Exchanger Fan Motor</td>
<td>25 hp</td>
<td>SS</td>
<td>18.7</td>
<td>80%</td>
<td>17.60</td>
</tr>
<tr>
<td>Skid Utility Loads (lights, controller)</td>
<td>N/A</td>
<td>N/A</td>
<td>15</td>
<td>80%</td>
<td>12.00</td>
</tr>
<tr>
<td>Compressor #2 Main Motor</td>
<td>100 hp</td>
<td>VFD</td>
<td>74.6</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>Compressor #2 fan motor</td>
<td>10 hp</td>
<td>VFD</td>
<td>7.5</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>COMPRESSOR #2 Pre-lube</td>
<td>.5 hp</td>
<td>SS</td>
<td>30</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>Meter Set (MSA)</td>
<td>N/A</td>
<td>SS</td>
<td>25</td>
<td>80%</td>
<td>20.00</td>
</tr>
<tr>
<td>Site Misc. Load (AC/Yard lighting)</td>
<td>N/A</td>
<td>SS</td>
<td>50</td>
<td>80%</td>
<td>40.00</td>
</tr>
<tr>
<td>TOTAL KW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>167.20</td>
</tr>
</tbody>
</table>

VFD = Variable Frequency Drive SS = Soft Start

### Parking

Parking will be accessible directly to the south of the project facility. This area already exists as a flat dirt parking area for farm equipment. Parking areas will be constructed to comply with Kings County Improvement Standards Section 303.G, as applicable.

### Hours of Operation

The facility will be operational 24 hours/7 days a week but will not be open to public visitors without prior permission.
**Staffing and Traffic**

Once operational, there will be one-two staff at the facility approximately eight hours on a daily basis. Routine maintenance and operations activities will be conducted by one-two staff who will make daily checks on equipment, for a total of two daily round trips. Staff work a regular five-day a week schedule.

Deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil, carbon media, replacement parts, other mechanical equipment and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

**Water Usage**

Operational water usage is estimated to be approximately 1,000 gallons a day (1,000 gallons x 365/year = approximately 365,000 gallons) or 1.1 AF annually. Bottled water for employees will be brought to the project site as well.

Additional information is included in Section 2.4 of this document.

**Mailing Address and Phone Number of Contact Persons**

Chuck Kinney  
Deputy Director- Planning  
Kings County Community Development Agency  
1400 West Lacey Boulevard, Building #6  
Hanford, California 93230  
(559) 584-8989

**Findings**

As Lead Agency, the Kings County Community Development Agency (Kings County) finds that the project will not have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see Section 3 - Environmental Checklist) identified one or more potentially significant effects on the environment, but revisions to the project have been made before the release of this Mitigated Negative Declaration (MND) or mitigation measures would be implemented that reduce all potentially significant impacts to less-than-significant levels. The Lead Agency further finds that there is no substantial evidence that this project would have a significant effect on the environment.

**Mitigation Measures Included in the Project to Avoid Potentially Significant Effects**

MM AQ-1: During project construction the following measures shall be implemented:
• Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.

• When exposure to dust is unavoidable for workers who will be disturbing the top two-12 inches of soil, provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication “Preventing Work-Related Coccidioidomycosis (Valley Fever).”

• Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever.

• Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms.

• Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment.

**MM BIO-1:** Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.

Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

<table>
<thead>
<tr>
<th>Type of Den</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Den</td>
<td>50-foot radius</td>
</tr>
<tr>
<td>Known Den</td>
<td>100-foot radius</td>
</tr>
<tr>
<td>Natal/Pupping Den (Occupied and Unoccupied)</td>
<td>Contact U.S. Fish and Wildlife Service for guidance</td>
</tr>
<tr>
<td>Atypical Den</td>
<td>50-foot radius</td>
</tr>
</tbody>
</table>

Buffer zones shall be considered Environmentally Sensitive Areas (ESAs) and no ground-disturbing activities shall be allowed within a buffer area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) shall be contacted upon the discovery of any natal or pupping dens.

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (United States Fish and Wildlife Service, 2011).
MM BIO-2: Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.

MM BIO-3: During all construction-related activities, the following mitigation shall apply:

- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.
- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.
- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
- 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 four inches or greater that are stored at a construction site for one or more overnight periods shall 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 shall not be moved until the USFWS 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.
- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall...
observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

- 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 shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. 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 USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

- All sightings of the San Joaquin 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 shall also be provided to the USFWS at the address below.

- Any project-related information required by the USFWS 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 W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

**MM BIO-4:** All fencing constructed on the project site shall be wildlife friendly. In order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

**MM BIO-5:** If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

**MM BIO-6:** If construction of the project occurs during Swainson's hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:
• Protocol nesting surveys for Swainson’s hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the *Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley* (Swainson’s Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between March 20 and April 20. If no nests are observed, no further action is necessary.

• If active Swainson’s hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.

**MM BIO-7:** If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

**MM BIO-8:** The measures listed below shall be implemented prior to and during construction at the project site, to protect the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

• All construction activity shall occur during daylight when kangaroo rats are less active;

• A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured, consultation with California Department of Fish and Wildlife is required; and

• During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

**MM BIO-9:** Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California
Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.

**MM CR-1:** The following measures shall be implemented, as necessary, in conjunction with the construction of the Project

a) Cultural Resources Alert on Project Plans: The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.

b) The project proponent shall retain Santa Rosa Rancheria Cultural staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

c) The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

d) If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

e) Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during construction. Tribal participation would be dependent upon the availability and interest of the Tribe.
f) Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

**MM CR-2** In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of Hanford Lakeside Dairy Digester Project:

   a) Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop in the vicinity of the find and the Kings County Coroner shall be notified immediately. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD). The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(e) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

   b) Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

**MM GEO-1** Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report shall be submitted to the Kings County Community Development Agency for review.

**MM GEO-2** During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource,
additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2.

**MM HAZ-1:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved HMBP shall be submitted to the Kings County Community Development Agency.

**MM HAZ-2:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval.

**MM HYD-1:** Prior to ground-disturbing activities, the project proponent shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The SWPPP shall include a site map that shows the construction site perimeter, existing and proposed manmade facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. Additionally, the SWPPP shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting any existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

A copy of the approved SWPPP shall be submitted to the Kings County Community Development Agency.

**MM TRANS-1:** A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe.
MM TRANS-2: An Operations and Maintenance Program will be developed and followed to
inspect and pressure-test the pipeline. Monitoring will occur during construction and on an
annual basis during project operations.

Hanford-Lakeside Dairy Digester Cluster Project
Kings County Community Development Agency

July 2019
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SECTION 1 - INTRODUCTION

1.1 - Overview

The project proponent is requesting approval of Conditional Use Permit No. 17-14 to allow for the construction and operation of a biogas upgrading facility. The facility will consist of moisture removal, H₂S scrubbing, CO₂ striping, and biomethane compressors. Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed to connect with up to 18 dairy digesters. An interconnection and injection point will be connected to the existing SCG pipeline SL 38-523. An MSA will monitor gas quality, odorization using measurement and control equipment. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use.

1.2 - California Environmental Quality Act

Kings County is the Lead Agency for this project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see Section 3 – Initial Study) provides analysis that examines the potential environmental effects of the construction and operation of the project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared and a determination can be made that no significant environmental effects will occur because revisions to the project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see Appendix D – Mitigation Monitoring and Reporting Program).

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can be completed with an MND.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of “no impact” is appropriate if the analysis concludes that the project would not affect a topic area in any way.
- An impact is considered “less than significant” if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered “less than significant with mitigation incorporated” if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the applicant.
• An impact is considered “potentially significant” if the analysis concludes that it could have a substantial adverse effect on the environment.

**1.4 - Document Organization and Contents**

The content and format of this IS/MND is designed to meet the requirements of CEQA. The report contains the following sections:

- **Section 1 – Introduction:** This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- **Section 2– Project Description:** This section describes the project and provides data on the site's location.
- **Section 3 – Environmental Checklist:** This section contains the evaluation of 18 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed project would have an impact. One of four findings is made which include: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 18 environmental resource factors, then an Environmental Impact Report will be required.
- **Section 4 – List of Preparers:** This section identifies the individuals who prepared the IS/MND.
- **Section 5 – Bibliography:** This section contains a full list of references that were used in the preparation of this IS/MND.
- **Appendix D – Mitigation Monitoring and Reporting Program:** This appendix contains the Mitigation Monitoring and Reporting Program.

**1.5 - Incorporated by Reference**

The following documents and/or regulations are incorporated into this IS/MND by reference:

- 2035 Kings County General Plan;
- Kings County Development Code; and
- Kings County Airport Land Use Compatibility Plan.
SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The project proponent is requesting approval of Conditional Use Permit No. 17-14 to allow for the construction and operation of a biogas upgrading facility. The facility will consist of moisture removal, H₂S scrubbing, CO₂ stripping, and biomethane compressors. Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed to connect with up to 18 dairy digesters. For this environmental analysis, unless specifically differentiated, the biogas upgrading facility and the approximately 37 miles of gathering pipelines will be referred to as the "project."

2.2 - Project Location

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California; approximately 3.5 miles southeast of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016). The project also includes approximately 37 miles of buried biogas gathering pipelines at an approximate depth of between four and eight feet, depending on topography (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages.

The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE ¼ of SE ¼ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet AMSL.

Kings County is a predominately agricultural region of the San Joaquin Valley (Valley), in Central California (Figure 2-1). The eastern portion of the County is generally flat, with large agricultural areas with generally compact, interspersed towns. The project site is located on the Valley floor, 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. 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 and telephone poles are noticeable. Mature trees, residential, commercial, and industrial development, utility structures, and other vertical forms are visible in the region because of the flat terrain.

2.3 - Surrounding Land Uses

The project site is located within an agricultural portion of the unincorporated County and is currently under crop cultivation.
Figure 2-1
Regional Location
The surrounding area is rural in nature, characterized as cultivated cropland, undeveloped lands, dairies and agricultural residences. The three closest agricultural residences are approximately 0.5 miles southeast, 0.5 miles to the southwest, and 0.5 miles north of the project site.

<table>
<thead>
<tr>
<th>Location</th>
<th>Existing Land Use</th>
<th>Existing General Plan and Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>Existing agribusiness</td>
<td>AG (20)</td>
</tr>
<tr>
<td>East</td>
<td>Cultivated cropland</td>
<td>AG (20)</td>
</tr>
<tr>
<td>South</td>
<td>Cultivated cropland</td>
<td>AG (20)</td>
</tr>
<tr>
<td>West</td>
<td>Cultivated cropland</td>
<td>AG (20)</td>
</tr>
</tbody>
</table>

2.4 - Proposed Project

The Hanford-Lakeside Dairy Digester Cluster project proposes to construct a dairy biogas upgrading facility on an approximately 62,235 square foot portion (461 feet by 135 feet) of a 3.3-acre parcel (APN 028-080-016), to be located at 15664 7th Avenue within the unincorporated area of Kings County, California (Figure 2-2). The facility will consist of moisture removal, CO₂ stripping, and biomethane compressors. Gathering lines will move biogas from each participating dairy to the central upgrading facility (project). The lines will be run within private property or Kings County ROW. The four to 20-inch diameter pipes will be constructed of SDR-21 HDPE and will be buried at least 36 inches below grade. A blower controlled by a central SCADA system, at each dairy will push gas from the dairy into the gathering lines that will carry the gas to the biogas facility where impurities, moisture and gas constituents, not suitable for injection in to the SCG pipeline, will be removed. The resulting biomethane will pass to the MSA, which includes gas quality monitoring, odorization, measurement and control equipment controlled via SCADA, at the interconnection and injection point and into the SCG pipeline.

Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies (Figure 2-3). The proposed footprint of the biogas facility is 461 feet x 135 feet and will encompass approximately 1.43 acres (Figure 2-4). Staging areas will be located onsite. The facility will require upgraded or new electrical service from Pacific Gas and Electric to power the equipment.

The proposed project involves the capture of biogas generated via anaerobic digestion of dairy manure at each dairy. Biogas is a naturally occurring mixture of primarily methane and carbon dioxide. Hydrogen sulfide (H₂S) will be scrubbed out of the gas at the dairy. The biomethane will be transported via low-pressure gas pipelines from the digester to the biogas upgrading facility’s onsite dewatering equipment and thence to the main gas upgrading equipment. Methane is not toxic, but handling methane can be hazardous. In addition, methane can be flammable. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is flammable at concentrations between five percent and 15 percent in air.
Figure 2-2
Project Site
Figure 2-3
Project Area
Figure 2-4
Project Area PLSS
Figure 2-5
Site Plan
Unconfined mixtures of methane in air are not explosive; however, a flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses rapidly in air. Unintentional releases of biogas from dairy digester facilities or pipelines could pose risks to human health and safety. In the unlikely event that biogas is accidentally released into the atmosphere by a leak or rupture of the digester facility or pipe segments, it is possible that if the gas reaches a combustible mixture and an ignition source is present, a fire or explosion could occur resulting in injury or fatality. In addition, operation and maintenance of the dairy digester facility will involve the transport, use, storage, and disposal of small quantities of hazardous materials such as fuels, lubricants, and hydraulic fluids. Handling of hazardous materials are regulated by federal and State laws, as mentioned earlier, which minimizes worker safety risks from both physical and chemical hazards in the workplace.

With the scrubber facility that is needed for cleaning the biogas to remove hydrogen sulfide, flushing of the scrubbers will produce sulfur biogas scrubber effluent. One potential use of this effluent could be as a soil amendment. As a soil amendment, it would be subject to the California Department of Food and Agriculture Code covering fertilizing materials (Food and Agricultural Code Division 7, Chapter 5). Compliance with existing safety regulations and widely accepted industry standards will minimize the hazard to the public and the environment.

**Dairy Facility**

At each of the 18 dairy facilities, the project proposes to install a small blower and scrubbing facility. The total footprint of this facility will be no larger than 40 feet x 40 feet. It may contain a 30-foot x 30-foot steel building for the equipment, or just a concrete slab and gravel for the equipment area.

**Upgrading Facility**

The project proposes to install the biogas upgrading facility at 15664 7th Avenue, Hanford, APN 028-080-016. The upgrading facility will consist of moisture removal, H2S scrubbing, CO2 stripping, and biomethane compressors. The facility will require upgraded or new electrical service from PG&E to power the equipment. All the equipment will be designed specifically for this use and sourced from experienced vendors. The proposed footprint is 461 feet x 135 feet (62,235 square feet). Access would be taken from a private drive approach from 7th Avenue. An emergency entrance with a crash-gate located along 7th Avenue will provide secondary access to the facility.

**Interconnection and Injection Point and Product Gas Compression**

The project proposes to install an interconnection and injection point with SCG pipeline SL 38-523. The equipment necessary for this is referred to by SCG as the MSA or the Product Gas Metering Unit (PGMU). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The interconnection point is shown in the attached facility layout. In addition to metering and other control equipment described above, the
MSA/PGMU will include a primary and backup product gas compressor installed and operated by SCG to compress the newly cleaned biogas to the pressure needed (275 PSI) to inject into to the SCG pipeline.

All portions of the project will comply with Pipeline and Hazardous Materials Safety Administration (PHMSA) guidelines, 49 CFR Part 192, and with the CPUC’s Safety Enforcement Division (SED) purview, CPUC General Order 112-F.

**Gathering Lines**

The project proposes to install about 37 miles of low-pressure HDPE biogas gathering lines. The gathering pipeline system is considered as a Class 1 pipeline (due to the low population density within which it traverses) and is classified as non-jurisdictional gathering per the PHMSA regulations. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project. Pipelines will be run in private property or in some cases parallel or crossing Kings County ROWs and several existing drainages. Details of the route are included in Appendix E.

**2.4.2 - CONSTRUCTION**

Construction is anticipated to take approximately 10 months to complete.

During construction, an anticipated 15 to 20 employees will be onsite and up to 10 deliveries daily. Traffic to the project site is anticipated to be less than 20 round trips per day.

Staging areas are proposed to be located on the site. The facility will require upgraded or new electrical service from Pacific Gas and Electric to power the equipment.

**Construction Equipment**

It is anticipated that the following pieces of equipment would be used during construction activities:

- Mini excavator
- Excavator
- Loader
- HDPE welding machine
- Water truck
- Scraper
- Self-propelled compactor
- Grader
- Mobile generator
- Service truck
- Air compressor
- Trencher
**Water Usage**

An estimated 5,000 gallons/day is anticipated during construction activities. Based on an average 20 workdays a month, approximately three AF would be required (5,000 gallons x 200 days = one million gallons).

**2.4.3 - OPERATIONS**

**Dairy Facility**

The biogas is produced by the digester at ambient temperature and just slightly above atmospheric pressure. From the digester, it’s piped through a biogas filter and condensation trap to remove any particulates and condensation. Next, it’s pulled through a condenser to lower the temperature of the gas to condense out additional moisture and dry the gas for sending down the gathering pipelines. After condensation, the biogas blower pressurizes the gas to no more than 20 PSI and sends it through a media-based scrubber to lower the H2S below levels hazardous to human health. After the scrubber, the gas is sent down the gathering pipelines to the cleanup facility. Each blower will be controlled by a central SCADA system that is overseen by operators on a 24/7 basis. Additionally, flow meters will be installed at each digester site and at the upgrading facility to monitor biogas flows.

**Upgrading Facility**

The upgrading facility removes impurities, moisture, and gas constituents that are not suitable for injection into the SCG pipeline. The biogas first enters a moisture condensation trap and is then compressed and sent through a CO2 stripper. This process transforms biogas to biomethane, which is indistinguishable from conventional natural gas. The final step is a compressor to reach the injection pressure needed to enter the SCG pipeline.

The facility will create up to 400 gallons per day of biogas condensate and oil/water mix from the biogas condensation unit and the compressor oil and water separators. This liquid waste will be composed primarily of water nonhazardous and will be handled only by trained personnel. This liquid waste will be stored in a marked tank at the facility and disposed of in accordance with State, local, and federal regulations.

The facility will also create up to 250 gallons per quarter of waste compressor oil. This will be stored onsite in a marked tank and disposed of in accordance with State, local, and federal regulations.

**Interconnection and Injection Point (MSA) and Product Gas Compression**

The MSA measures, odorizes, and controls the biomethane gas flow into the SCG pipeline. This equipment will be controlled by SCG via SCADA. SCG will monitor gas quality on a 24/7 basis using this equipment. If at any point the biomethane is not within the SCG Rule 30 Standards, the equipment automatically closes the injection valve and the biomethane is not injected into the pipeline. There is an emergency stop button at each dairy site and the
central hub that will immediately shut down the blowers if depressed. If the blowers aren’t operating, nothing flows into the pipeline.

In addition to metering and other control equipment described above, the MSA/PGMU will include a product gas compressor installed and operated by SCG to compress the newly cleaned biogas to the pressure needed (275 PSI) to inject into to the SCG pipeline.

**Gathering Lines**

The gathering lines move biogas from each participating dairy to the central upgrading facility. The lines will range in size from four inches to 20 inches and will be constructed of SDR-21 HDPE. The lines will be buried at least 36 inches below grade and will be marked with tracer wire. Each dairy will have a blower to push gas from that dairy into the gathering lines at pressure of less than 20 psi. Each blower will be controlled by a central SCADA system that is overseen by operators on 24 hour/7 days a week basis. When a blower increases in speed, more biogas is pushed to the upgrading facility, and when it decreases, less biogas is sent. The gathering lines will be pressure monitored via SCADA equipment in real time to detect leaks or major failures. Flow meters at each site and the upgrading facility will monitor flows. Flow meters at each site and the upgrading facility will monitor flows. As noted above, if a leak is detected or if there is an issue with the biogas quality, there is an emergency stop button.

### Operational Equipment – Dairy Facility

<table>
<thead>
<tr>
<th>Description</th>
<th>Motor Size</th>
<th>Type</th>
<th>Oper BHP</th>
<th>Oper Factor</th>
<th>Oper kW</th>
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<tbody>
<tr>
<td>Chiller</td>
<td>30 hp</td>
<td>VFD</td>
<td>30</td>
<td>80%</td>
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<tr>
<td>Biogas Blower</td>
<td>40 hp</td>
<td>VFD</td>
<td>40</td>
<td>70%</td>
<td>20.72</td>
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<tr>
<td>Hydrogen Sulfide Scrubber</td>
<td>N/A</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCADA Controls</td>
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<td></td>
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<tr>
<td><strong>Total Kw</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>38</strong></td>
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</table>

SCADA = Supervisory Control and Data Acquisition

### Operational Equipment – Upgrading Facility

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<tr>
<th>Description</th>
<th>Motor Size</th>
<th>Type</th>
<th>Oper BHP</th>
<th>Oper Factor</th>
<th>Oper kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG Compressor</td>
<td>800 hp</td>
<td>VFD</td>
<td>719</td>
<td>100%</td>
<td>536</td>
</tr>
<tr>
<td>BG Compressor</td>
<td>800 hp</td>
<td>VFD</td>
<td>719</td>
<td>100%</td>
<td>536</td>
</tr>
<tr>
<td>BG Compressor</td>
<td>800 hp</td>
<td>VFD</td>
<td>719</td>
<td>100%</td>
<td>536</td>
</tr>
<tr>
<td>Hydrogen Sulfide Polisher</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>BG Comp Gas Cooler Fan</td>
<td>10 hp</td>
<td>VFD</td>
<td>9</td>
<td>100%</td>
<td>7</td>
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<tr>
<td>BG Comp Oil Cooler Fans</td>
<td>3 x 10 hp</td>
<td>VFD</td>
<td>27</td>
<td>100%</td>
<td>20</td>
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<tr>
<td>Chiller Compressor</td>
<td>150</td>
<td>SS</td>
<td>115</td>
<td>100%</td>
<td>86</td>
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<tr>
<td>Chiller Condenser Fan</td>
<td>15</td>
<td>VFD</td>
<td>13</td>
<td>100%</td>
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<td>Product Gas Compressor</td>
<td>150</td>
<td>VFD</td>
<td>137</td>
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**Project Description**

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<th>Type</th>
<th>Oper BHP</th>
<th>Oper Factor</th>
<th>Oper kW</th>
</tr>
</thead>
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<tr>
<td>Product Gas Comp Gas Cooler Fan</td>
<td>5</td>
<td>VFD</td>
<td>4</td>
<td>100%</td>
<td>3</td>
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<tr>
<td>Plant Air Compressor No. 1</td>
<td>15</td>
<td>ATL</td>
<td>13</td>
<td>80%</td>
<td>8</td>
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<tr>
<td>Plant Air Compressor No. 2</td>
<td>15</td>
<td>ATL</td>
<td>13</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>1st Stage Membrane</td>
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<td></td>
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<tr>
<td>2nd Stage Membrane</td>
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<td></td>
<td></td>
<td>0</td>
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<tr>
<td>Transfer Pump</td>
<td>15</td>
<td>ATL</td>
<td>13</td>
<td>10%</td>
<td>1</td>
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<tr>
<td>Total Kw</td>
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<td>1,845</td>
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</table>

BG Compressor = Biogas Compressor; VFD = Variable Frequency Drive; SS = Soft Start; ATL = Across the Line

**Operational Equipment – MSA and Product Gas Compression**

<table>
<thead>
<tr>
<th>Description</th>
<th>Motor Size</th>
<th>Type</th>
<th>Nameplate kW</th>
<th>Oper Factor</th>
<th>Oper kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressor #1 Main Motor</td>
<td>100 hp</td>
<td>VFD</td>
<td>74.6</td>
<td>80%</td>
<td>70.20</td>
</tr>
<tr>
<td>Compressor #1 Fan Motor</td>
<td>10 hp</td>
<td>VFD</td>
<td>7.5</td>
<td>80%</td>
<td>7.00</td>
</tr>
<tr>
<td>Compressor #1 Pre-lube</td>
<td>.5 hp</td>
<td>SS</td>
<td>0.4</td>
<td>80%</td>
<td>0.40</td>
</tr>
<tr>
<td>Heat Exchanger Fan Motor</td>
<td>25 hp</td>
<td>SS</td>
<td>18.7</td>
<td>80%</td>
<td>17.60</td>
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<tr>
<td>Skid Utility Loads (lights, controller)</td>
<td>N/A</td>
<td>N/A</td>
<td>15</td>
<td>80%</td>
<td>12.00</td>
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<tr>
<td>Compressor #2 Main Motor</td>
<td>100 hp</td>
<td>VFD</td>
<td>74.6</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>Compressor #2 Fan motor</td>
<td>10 hp</td>
<td>VFD</td>
<td>7.5</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>COMPRESSOR #2 Pre-lube</td>
<td>.5 hp</td>
<td>SS</td>
<td>30</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>Meter Set (MSA)</td>
<td>N/A</td>
<td>SS</td>
<td>25</td>
<td>80%</td>
<td>20.00</td>
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<tr>
<td>Site Misc. Load (AC/Yard lighting)</td>
<td>N/A</td>
<td>SS</td>
<td>50</td>
<td>80%</td>
<td>40.00</td>
</tr>
<tr>
<td><strong>TOTAL KW</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>167.20</td>
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</tbody>
</table>

VFD = Variable Frequency Drive; SS = Soft Start

**Water Usage**

Operational water usage is estimated to be approximately 1,000 gallons a day (1,000 gallons \( \times 365 \text{/year} = \) approximately 365,000 gallons) or 1.1 AF annually. Bottled water for employees will be brought to the project site as well.

**Parking**

Parking will be accessible directly to the south of the project facility. This area already exists as a flat dirt parking area for farm equipment. Parking areas will be constructed to comply with Kings County Improvement Standards Section 303.G, as applicable.
**Hours of Operation**

The facility will be operational 24 hours/7 days a week but will not open to public visitors without prior permission.

**Staffing and Traffic**

Once operational, there will one-two permanent staff at the facility who will conduct routine maintenance and operations activities, make daily checks on equipment, for a total of two daily round trips. Staff typically work a five-days a week schedule.

Deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil, carbon media, replacement parts, other mechanical equipment and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

For this environmental analysis, unless specifically differentiated, the biogas upgrading facility and the approximately 37 miles of gathering pipelines will be referred to as the “project” or “project area.”
SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. Project Title:
   Hanford-Lakeside Dairy Digester Cluster Project

2. Lead Agency Name and Address:
   Kings County Community Development Agency
   1400 West Lacey Boulevard, Building #6
   Hanford, California 93230

3. Contact Person and Phone Number:
   Chuck Kinney, Deputy Director
   (559)852-2674

4. Project Location:
   15664 7th Avenue, Hanford, CA 93230

5. Project Sponsor's Name and Address:
   Maas Energy Works, Inc.
   3711 Meadowview Drive, Space 100
   Redding, CA 96002

6. General Plan Designation:
   AG 20 (General Agriculture - 20 District)

7. Zoning:
   AG 20 (General Agriculture - 20 District)

8. Description of Project:
   Please see Section 2.4 above – Project Description

9. Surrounding Land Uses and Setting:
   Please see Section 2.3 above – Surrounding Land Uses
10. Other Public Agencies Whose Approval May be Required:

- California Department of Fish and Wildlife (CDFW)
- San Joaquin Valley Air Pollution Control District
- Regional Water Quality Control Board--Lahontan (RWQCB)
- State Water Resource Control Board (SWRCB)
- US Army Corps of Engineers (ACOE)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

California Native American tribes traditionally and culturally affiliated with the project area have provided their contact information to the County (Lead Agency) requesting consultation of proposed projects pursuant to AB 52, Public Resources Code (PRC) Section 21080.3.1.

NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

3.2 - Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact"
is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

a. Earlier Analysis Used. Identify and state where they are available for review.

b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

a. the significance criteria or threshold, if any, used to evaluate each question; and

b. the mitigation measure identified, if any, to reduce the impact to less than significance.
3.3 - Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics ☐ Agriculture and Forestry Resources ☒ Air Quality

☒ Biological Resources ☒ Cultural Resources ☐ Energy

☒ Geology and Soils ☐ Greenhouse Gas Emissions ☒ Hazards and Hazardous Materials

☒ Hydrology and Water Quality ☐ Land Use and Planning ☐ Mineral Resources

☐ Noise ☐ Population and Housing ☒ Public Services

☐ Recreation ☒ Transportation ☒ Tribal Cultural Resources

☒ Utilities and Service Systems ☒ Wildfires ☒ Mandatory Findings of Significance

3.4 - Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature  

Date  

Chuck Kinney, Deputy Director  

Printed Name  

For
Left Intentionally Blank
3.4.1 - AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Discussion

Impact #3.4.1a – Would the project have a substantial adverse effect on a scenic vista?

The County of Kings 2035 General Plan identifies three scenic vistas within the County: The Kings River, Cross Creek, and the foothill and mountain terrain in the southwest portion of the County. Cross Creek is the closest scenic resource to the project site, located approximately one mile to the east. The visual characteristics of the project site and the surrounding areas include primarily agricultural, dairy and rural residential land uses.

The project site itself would not impact scenic views of Cross Creek, due to the distance from the creek and the relatively low-profile of the proposed structures. The gathering pipeline will traverse Cross Creek, however the pipeline will be underground and therefore not be visible or impact the scenic vista once constructed. The project consists of the biogas facility, pipelines and tanks that are similar in visual character to the adjacent agricultural equipment storage yard, other large agricultural operations in the vicinity and is not unique to the surrounding visual setting. Neither the project area nor any surrounding land use...
contains features typically associated with scenic vistas (e.g., ridgelines, peaks, overlooks). Therefore, the project’s activities will not obscure or impact views of any scenic vistas.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.1b – Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

The project site is in a generally rural, undeveloped area of eastern Kings County, approximately three miles southeast of the City of Hanford and approximately 11 miles west of the City of Tulare. The area is predominantly characterized as having cultivated and undeveloped farmland, agriculturally related commercial businesses, dairies and sparse agricultural dwellings.

There are no State designated scenic highways within the immediate proximity of the project site (California Department of Transportation, 2011). In addition, no scenic highways or roadways are listed within the project area in the County of Kings 2035 General Plan. Based on the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR) and Kings County General Plan, no historic buildings exist on the project site; the nearest buildings on the NRHP and CRHR are over six miles northwest of the project in the City of Hanford. Construction of the project would not require removal of any existing trees or rock outcroppings. Minor grading is anticipated but will not substantially change the topography or change the current visual character of the project location. Therefore, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.1c – In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**
The proposed project will consist of the biogas facility, underground pipelines, and tanks. These features are similar in visual character to the agricultural equipment storage yard directly north of the project and surrounding dairy operations, so the facility will not be unique from the surrounding visual setting. The facility’s appearance would not change or degrade the visual character of the project site. The pipelines will not be visible. Therefore, the project would not result in a substantial impact to the visual quality of the area.

*Mitigation Measure(s)*

No mitigation is required.

*Level of Significance*

Impacts would be *less than significant.*

**Impact #3.4.1d – Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?**

Construction of the proposed project would generally occur during daytime hours, typically from 7:00 a.m. to 6:00 p.m. All lighting would be directed downward and shielded to focus illumination on the desired work areas only and prevent light spillage onto adjacent properties. Because lighting used to illuminate work areas would be shielded, focused downward, and turned off by 6:00 p.m., the potential for lighting to affect anyone adversely is minimal.

The biogas facility will function 24 hours a day and all lighting associated with this project will be directed downward and shielded to focus illumination on the project site only and prevent light spillage onto adjacent properties. The biogas transmission pipelines will be underground and not present a glare issue. Aboveground connection lines and tanks will be constructed out of materials that would not induce glare. Routine facility maintenance and repair activities will be conducted during daylight hours. Construction would occur during daylight hours only, so no overnight construction lighting would be necessary. Construction lighting would only be used for twilight hours, ending at 6:00 p.m. each day. Therefore, the project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

*Mitigation Measure(s)*

No mitigation is required.

*Level of Significance*

Impacts would be *less than significant.*
3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

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 Department 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 Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

b. Conflict with existing zoning for agricultural use or a Williamson Act Contract?

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

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

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 forest land to non-forest use?

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?
The project site is designated as Farmland of Statewide Importance by the Department of Conservation’s (DOC) Farmland Mapping and Monitoring Program (FMMP) (CA Department of Conservation, 2016). Therefore, the project would permanently convert 1.32 acres of actively cultivated agricultural land that has been designated as Farmland of Statewide Importance to accommodate the development of the proposed facility. During construction of the underground pipeline, there would be a temporary suspension of farming activities. However, once installed, farming activities would continue. There would be no permanent conversion of farmland from the installation and operation of the underground pipelines. According to the California Farmland Conversion Report (CA Department of Conservation, 2015), there were approximately 376,869 acres of Farmland of Statewide Importance inventoried in Kings County. The loss of less than an acre of farmland represents a loss of 0.0002% of designated farmland. Therefore, the impact of the project would be considered less than significant.

**Mitigation Measure(s)**

No mitigation measures are required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act Contract?**

The project site is located in the AG-20 zone district. However, the proposed project will *not* conflict with this zoning. Article 4, Section 407 of the Kings County Development Code states that Table 4-1 prescribes the land use regulations for “Agricultural” districts. The regulations for each district are established by letter designation shown in the key of Table 4-1.

Table 4-1 lists biomass energy facilities and projects (that can be used to make liquid biofuels) as a conditional use subject to Kings County Planning Commission approval in the General Agricultural (AG-20) zone district. Therefore, approval of a conditional use permit would be required in order for the proposed use to comply with Section 407 and Table 4-1.

The biogas facility site itself is not subject to a Williamson Act contract. However, the gathering pipeline route goes through several properties owned by the participating dairies, and several of these are subject to a land use contract. The *Uniform Rules for Agricultural Preserves in Kings County* state that during the term of the contract, the only uses permitted upon the land shall be Commercial Agricultural Uses and Compatible Uses. Section A.3.d of the Uniform Rules for Agricultural Preserves in Kings County lists operation of dairies as a Commercial Agricultural Use. In addition, Section A.3.g. of the Uniform Rules for Agricultural Preserves in Kings County lists accessory structures and uses incidental to the operation of dairies as a Commercial Agricultural Use. The project would not conflict with the existing zoning for agricultural land use or a Williamson Act contract and future expansion of the
proposed pipeline to other dairies would not result in conflict with existing zoning for agricultural land use or a Williamson Act contract. There is no impact.

**Mitigation Measure(s)**

No mitigation measures are required.

**Level of Significance**

There would be **no impact**.

Impact #3.4.2c – Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? 

There is no forest or timberland on the project site or surrounding area, and the project site and surrounding area is zoned General Agricultural-20 District (AG-20). The project will have no impact on land designated for forest land use.

**Mitigation Measure(s)**

No mitigation measures are required.

**Level of Significance**

There would be **no impact**.

Impact #3.4.2d – Would the project result in the loss of forest land or conversion of forest land to non-forest use? 

As noted in Impact #3.4.2c, above, there is no designated forest or timberland on the project site or surrounding area, and the project site and surrounding area is zoned General Agricultural-20 (AG-20). The project will not convert land designated for forest land use.

**Mitigation Measure(s)**

No mitigation measures are required.

**Level of Significance**

There would be **no impact**.

Impact #3.4.2e – Would the project 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 forest land to non-forest use?
The project site and surrounding area is zoned General Agricultural-20 (AG-20). As noted in Impact #3.4.2a, the project will convert land a small amount of farmland to a non-agricultural use. However, this use is directly related to existing agricultural dairy operations and permitted in the AG-20 zone district with approval of a CUP. There is no evidence to indicate that the project would result in the conversion of surrounding agricultural lands to a non-agricultural use.

**Mitigation Measure(s)**

No mitigation measures are required.

**Level of Significance**

Impacts would be *less than significant.*
The following analysis is based primarily on the Air Quality Impact Analysis (AQIA) pursuant to the San Joaquin Valley Air Pollution Control District (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), and the California Environmental Quality Act (CEQA) Statute and Guidelines for this project by Insight Environmental Consultants (Insight Environmental, 2018), Appendix A in this document. The Project area is located within the San Joaquin Valley Air Basin (SJVAB) in Kings County and is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the basin and is the local agency empowered to regulate air pollutant emissions for the plan area.

### Discussion

The project proposes to install an approximately 461 feet x 135 feet (62,235 feet) biogas upgrading facility and approximately 37 miles of buried biogas gathering lines connecting to up to 18 dairies. During construction, an anticipated 15 to 20 employees will be onsite. Traffic to the project site is anticipated to be approximately 20 round trips per day. Approximately four additional diesel trucks with construction equipment and materials would occur on a daily basis. Once operational, there will be one-two staff at the facility approximately eight hours on a daily basis. Routine maintenance and operations activities will be conducted by one-two staff who will make daily checks on equipment, for a total of two daily round trips. Staff work a regular five-day a week schedule.
Deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil, carbon media, replacement parts, other mechanical equipment and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

The construction and operation of the proposed project would be subject to SJVAPCD rules and requirements, including any applicable permitting requirements. These rules and regulations may include compliance with the SJVAPCD’s Regulation VIII (Fugitive PM10 Prohibitions), Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 4002 (National Emissions Standards for Hazardous Air Pollutants), Rule 4102 (Nuisance), Rule 4570 (Confined Animal Facilities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), and other applicable regulations.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code §21000 et. al). SJVAPCD’s specific CEQA air quality thresholds are presented in Table 3.4.3-1.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Pollutant</th>
<th>Significance Level</th>
<th>Construction (tons/year)</th>
<th>Operational (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>100 tons/yr</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROG</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOx</td>
<td>27</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>15</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM2.5</td>
<td>15</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Insight Environmental 2018

Impact #3.4.3a – Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The SJVAB is designated nonattainment of State and federal health-based air quality standards for ozone and PM2.5. The SJVAB is designated nonattainment of State PM10. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple Air Quality Attainment Plan (AQAP) documents, including:

- 2016 Ozone Plan;
- 2007 PM10 Maintenance Plan and Request for Redesignation; and
- 2016 PM2.5 Plan.
Air quality impacts from proposed projects within Kings County are controlled through policies and provisions of the SJVAPCD and the 2035 Kings County General Plan (County of Kings, 2010). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD’s plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD’s adopted Air Quality Attainment Plans (AQAP) for O₃ and PM₁₀. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year.

The Kings County Association of Governments (KCAG) Air Quality Conformity Analysis demonstrates that the 2017 Federal Transportation Improvement Program (2017 FTIP) and 2014 Regional Transportation Plan (2014 RTP) in the Kings County would not hinder the efforts set out in the CARB’s SIP for each area’s non-attainment pollutants (CO, O₃, PM₁₀ and PM₂.₅). The analysis uses the San Joaquin Valley Demographic Forecasts 2010 to 2050. (Insight Environmental, 2018).

The KCAG Air Quality Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kings County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Air Quality Conformity Analysis were not incorporated into the KCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current Kings County zoning, the project site is designated as “AG20” and a change in zone district is not proposed.

Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. In order to determine whether the forecasted growth for the project area is sufficient to account for the projected increases in employment, an analysis based on KCAG regional forecast was conducted. Employment forecast for the analysis area appear to be sufficient to account for 100 percent of the planned employment growth attributed to the proposed project. In order to be considered “consistent” and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. According to Table 2-2 of KCAG’s Air Quality Conformity Analysis there is a projected employee increase of 7,988 in Kings County between 2010 and 2020 (Insight Environmental, 2018). The proposed project would result in approximately one-two employees to perform daily maintenance and operations tasks. These employees are currently employees by the project proponent, and therefore would not be considered new employees.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic
congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time. The proposed project is not anticipated to exceed SJVAPCD thresholds for criteria pollutants during construction or operations and impacts are considered less than significant (see Impact #3.4.3b).

As the growth represented by the proposed project was anticipated by the Kings County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

- The findings of the analysis show that the project’s minimal employment increases are planned for the project and the project area; and
- That, by definition, the proposed emissions from the project are below the SJVAPCD’s established emissions impact thresholds.

Based on the above analysis presented, the project is anticipated to be consistent with the AQAP, RTP, and KCAG Air Quality Conformity Analysis.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed project and pipeline were estimated in CalEEMod using applicant assumptions for equipment and construction schedule for the development of the project on 3.3 net acres.
- Long-term (Operations) – Long-term emissions were also estimated using EMFAC2014 and stationary source emission factors.

The proposed project’s construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and suspended particulate matter (PM₁₀ and PM₂.5). Project operations would generate air pollutant emissions from mobile sources (automobile activity from employees) and area sources (incidental activities related to facility maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (Insight Environmental, 2018). The project’s construction emissions were based on the equipment list outlined in Section 3.4 Project Description, and accordingly for the proposed project’s land use type and development intensity.

**Short-term Emissions**

SJVAPCD’s required measures for all projects were also applied:

- Water exposed area three times per day; and
• Reduce vehicle speed to less than 15 miles per hour

Table 3.4.3-2, below presents the project’s short-term emissions based on the anticipated construction period.

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>Pollutant (tons/year)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROG</td>
<td>NO\textsubscript{X}</td>
</tr>
<tr>
<td>Unmitigated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>0.48</td>
<td>4.79</td>
</tr>
<tr>
<td>Mitigated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>0.48</td>
<td>4.79</td>
</tr>
<tr>
<td>Significance Threshold</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Is Threshold Exceeded for a Single Year After Mitigation?</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Source: Insight Environmental 2018

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during a given year and would therefore be less than significant.

Mobile and stationary sources have been analyzed and reported in the AQIA. Stationary sources will be part of the process and the analysis of these sources is typically part of the permitting process whereby the project proponent must meet all permitting and emissions control standards established within the air pollution control district that the equipment will be located. Stationary source emissions are anticipated to be negligible based on similar projects that have been constructed and permitted within the SJVAPCD. Stationary source emissions from the project would consist of VOC emissions vented to the atmosphere from the biogas upgrade process. The commenter’s concern about sulfur dioxide is noted, however, according to information provided by the applicant the process will include SO\textsubscript{2} controls (such as an H\textsubscript{2}S scrubber) and will not include any combustion onsite.

**Long-term Emissions**

Long-term emissions are caused by operational mobile, area, and stationary sources. Long-term emissions would consist of the following components.

• Fugitive Dust Emissions

Operation of the project site at full build-out is not expected to present a substantial source of fugitive dust (PM\textsubscript{10}) emissions. The main source of PM\textsubscript{10} emissions would be from vehicular traffic associated with the project site.
PM\textsubscript{10} on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD’s Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed project:

- Rule 4102 – Nuisance;
- Regulation VIII – Fugitive PM\textsubscript{10} Prohibitions;
- Rule 8011 - General Requirements;
- Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities;
- Rule 8041 - Carryout and Trackout;
- Rule 8051 - Open Areas;
- The project design complies with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy;
- Applicants will be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII, and Indirect Source Rules for the SJVAPCD;
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient;
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt;
  - Medium cure cutback asphalt;
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, §5.1.4); and
- The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

The project would comply with applicable SJVAPCD rules and regulations, local municipal codes, policies and measures.

- Exhaust Emissions

Project-related transportation activities from employees and maintenance would generate mobile source ROG, NO\textsubscript{x}, SO\textsubscript{x}, CO, PM\textsubscript{10} and PM\textsubscript{2.5} exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total project emissions include: level of activity, site characteristics, weather conditions, and number of employees. As the project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

- Stationary Source Emissions
As noted in Tables 3.4.3-2 and 3.4.3-3, stationary source emissions are anticipated to be negligible based on similar projects that have been constructed and permitted within the SJVAPCD. Stationary source emissions from the project would consist of VOC emissions vented to the atmosphere from the biogas upgrade process.

**Projected Emissions**

The proposed project is expected to have long-term air quality impacts as shown in Table 3.4.3-3. Emission calculations are available in Appendix A.

**Table 3.4.3-3**

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>ROG</th>
<th>NO_x</th>
<th>CO</th>
<th>SO_x</th>
<th>PM_10</th>
<th>PM_2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Source Emissions</td>
<td>0.0020</td>
<td>0.0522</td>
<td>0.0255</td>
<td>0.0002</td>
<td>0.0018</td>
<td>0.0010</td>
</tr>
<tr>
<td>Stationary Source Emissions</td>
<td>0.0001</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SJVAPCD Threshold</td>
<td>10</td>
<td>10</td>
<td>100</td>
<td>27</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Is Threshold Exceeded</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Source: Insight Environmental 2018

As shown in Table 3.4.3-3, long-term operations-related emissions would not exceed the SJVAPCD significant threshold levels and impacts from the proposed project would be less than significant, no specific mitigation measures would be required.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.3b – Would the project 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?**

The nonattainment pollutants for the SJVAPCD are O_3, PM_10 and PM_2.5. Therefore, the pollutants of concern for this impact are ozone precursors, regional PM_10, and PM_2.5. As discussed above, the thresholds of significance used for determination of emission significance are shown in Tables 3.4.3-2 and 3.4.3-3, above, emissions from the project are well below the SJVAPCD’s thresholds.

The most recent, certified SJVAB emission inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory. This data will be used to assist the
SJVAPCD in demonstrating attainment of federal 1-hour O₃ standards. Table 3.4.3-4 provides a comparative look at the impacts proposed by the proposed project to the SJVAB emissions inventory.

**Table 3.4.3-4**

*Comparative Analysis of Project on SJVAB 2015 Inventory*

<table>
<thead>
<tr>
<th>Emissions Inventory Source</th>
<th>Pollutant (tons/year)</th>
<th>ROG</th>
<th>NOₓ</th>
<th>CO</th>
<th>SOₓ</th>
<th>PM_{10}</th>
<th>PM_{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kings County - 2015¹</td>
<td></td>
<td>7,775</td>
<td>5,110</td>
<td>10,622</td>
<td>73</td>
<td>8,541</td>
<td>1,789</td>
</tr>
<tr>
<td>SJVAB - 2015¹</td>
<td></td>
<td>119,063</td>
<td>123,808</td>
<td>245,390</td>
<td>3,103</td>
<td>96,616</td>
<td>23,214</td>
</tr>
<tr>
<td>Proposed Project</td>
<td></td>
<td>0.0021</td>
<td>0.0522</td>
<td>0.0255</td>
<td>0.0002</td>
<td>0.0018</td>
<td>0.0010</td>
</tr>
<tr>
<td>Proposed Project’s % of Kings</td>
<td></td>
<td>0.000027</td>
<td>0.00102</td>
<td>0.00024</td>
<td>0.00027</td>
<td>0.000021</td>
<td>0.000056</td>
</tr>
<tr>
<td>Proposed Project’s % of SJVAB</td>
<td></td>
<td>0.000002</td>
<td>0.00004</td>
<td>0.00001</td>
<td>0.00001</td>
<td>0.000002</td>
<td>0.000004</td>
</tr>
</tbody>
</table>

Notes:
¹ This is the latest inventory available as of June 2018, excluding natural sources.
Source: Insight Environmental 2018

Tables 3.4.3-5 and 3.4.3-6 provide CARB emissions inventory projections for the year 2020 for both the SJVAB and Kings County. Looking at the SJVAB emissions predicted by the CARB year 2020 emissions inventory, the Kings County portion of the air basin is a moderate source of the emissions. The proposed project produces a small portion of the total emissions in both Kings County and the entire SJVAB (Insight Environmental, 2018).

**Table 3.4.3-5**

*Emissions Inventory Kings County 2020 Estimated Projection (tons/year)*

<table>
<thead>
<tr>
<th></th>
<th>ROG</th>
<th>NOₓ</th>
<th>PM_{10}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Emissions</td>
<td>108,113</td>
<td>74,204</td>
<td>96,652</td>
</tr>
<tr>
<td>Percent Stationary Sources</td>
<td>30.8%</td>
<td>14.1%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Percent Area-Wide Sources</td>
<td>51.6%</td>
<td>3.9%</td>
<td>89.4%</td>
</tr>
<tr>
<td>Percent Mobile Sources</td>
<td>17.6%</td>
<td>82.0%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Total Stationary Source Emissions</td>
<td>33,325</td>
<td>10,439</td>
<td>5,439</td>
</tr>
<tr>
<td>Total Area-Wide Source Emissions</td>
<td>55,772</td>
<td>2,884</td>
<td>86,432</td>
</tr>
<tr>
<td>Total Mobile Source Emissions</td>
<td>18,980</td>
<td>60,882</td>
<td>4,782</td>
</tr>
</tbody>
</table>

Source: Insight Environmental 2018 Note: Total may not add due to rounding.
Table 3.4.3-6
2020 Emissions Projections- Proposed Project, Kings County & SJVAB

<table>
<thead>
<tr>
<th></th>
<th>ROG</th>
<th>NOx</th>
<th>PM$_{10}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Emissions</td>
<td>7,884</td>
<td>4,745</td>
<td>8,286</td>
</tr>
<tr>
<td>Percent Stationary Sources</td>
<td>16.2%</td>
<td>6.9%</td>
<td>3.5%</td>
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<tr>
<td>Percent Area-Wide Sources</td>
<td>58.8%</td>
<td>1.5%</td>
<td>88.1%</td>
</tr>
<tr>
<td>Percent Mobile Sources</td>
<td>25.0%</td>
<td>91.5%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Total Stationary Source Emissions</td>
<td>1,278</td>
<td>329</td>
<td>292</td>
</tr>
<tr>
<td>Total Area-Wide Source Emissions</td>
<td>4,636</td>
<td>73</td>
<td>7,300</td>
</tr>
<tr>
<td>Total Mobile Source Emissions</td>
<td>1,971</td>
<td>4,344</td>
<td>730</td>
</tr>
</tbody>
</table>

Source: Insight Environmental 2018
Note: Total may not add due to rounding.

A search of the Kings County Community Development Agency’s GIS viewer and records identified no other projects within a one-mile radius of the proposed project (Insight Environmental, 2018). The number or size of cumulative projects is of no particular significance since no “cumulative” emissions thresholds have been established by the SJVAPCD, or the Kings County Community Development Agency. Because the proposed project would generate less-than-significant project-related operational impacts to criteria air pollutants, the project’s contribution to cumulative air quality impacts would not be cumulatively considerable.

As shown above, the proposed project would pose no impact on regional O$_3$ and PM$_{10}$ formation. Because the regional contribution to these cumulative impacts would be negligible, the project would not be considered cumulatively considerable in its contribution to regional O$_3$ and PM$_{10}$ impacts.

Based on the analysis above, the proposed project does not pose a substantial increase to air basin emissions, as such air basin emissions would be essentially the same if the project is approved. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant. Impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.3c – Would the project expose sensitive receptors to substantial pollutant concentrations?**

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, residential uses and daycare centers. As noted in *Section*
3.4-12: Noise, the nearest sensitive receptors (residence and school) to the proposed project site is approximately 0.5 miles to the southeast.

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of roadways in the project vicinity.

This proposed project would result in the construction of an approximately 62,235 square feet biogas facility and the associated 37 miles of pipeline. Construction of the proposed project would result in short-term, minor increases in traffic for the surrounding road network by generating an estimated 20 roundtrips per construction day during the construction period and 2.5 additional daily trips during the operational period. Project will implement a dust control plan to minimize fugitive dust during construction as required by the air district. The minor increase in trips would not substantially lower the LOS. Therefore, the project would not generate, or substantially contribute to, additional traffic that would exceed State or federal CO standards.

GAMAQI recommends that lead agencies consider situations wherein a new or modified source of hazardous air pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. Typical sources of HAPs include diesel trucks or permitted sources such as engines, boilers or storage tanks. The Hanford-Lakeside Dairy Digester Cluster project will be located near scattered agricultural residences. The three closest agricultural residences are approximately 0.5 miles southeast, 0.5 miles to the southwest, and 0.5 miles north of the project site.

Since there will be a negligible amount of HAPs emitted from the project and only occasional diesel truck travel onsite, a prioritization score was determined for the facility to determine if a health risk assessment (HRA) would be required. An HRA is not required for a project with a total facility prioritization score of less than or equal to one. The project's prioritization score was 0.09, which indicates that an HRA is not warranted (Insight Environmental, 2018). Therefore, no further analysis is required to determine the HAPs impacts from this project and potential risk to the population attributable to emissions of HAPs from the proposed project would be less than significant.

**Airborne Fungus (Valley Fever)**

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever.
The proposed project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction. Mitigation Measure MM AQ-1 would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever. Therefore, the exposure to Valley Fever would be minimized. With the implementation of the mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less-than-significant levels.

**Mitigation Measure(s)**

**MM AQ-1:** During project construction the following measures shall be implemented:

- Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.
- When exposure to dust is unavoidable for workers who will be disturbing the top two-12 inches of soil, provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication “Preventing Work-Related Coccidioidomycosis (Valley Fever).”
- Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever.
- Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms.
- Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment.

**Level of Significance**

Impacts would be *less than significant impact with mitigation incorporated.*

**Impact #3.4.3d – Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

SJVAPCD identifies some common types of facilities that have been known to produce odors in the SJVAB (Insight Environmental, 2018). These can be used as a screening tool to qualitatively assess a project’s potential to adversely affect area receptors.

The project is a closed system; the digesters are completely sealed and specifically designed to avoid gas leakage. The biogas is collected under the digester cover, sent through an airtight blower system and into the sealed pipeline. The biogas upgrade facility is also sealed
from odors except for emergency of venting events. CO₂ and O₂ are periodically vented, but these gases do not contain odorous substances. Because the operations of the project are not expected to cause a public nuisance due to odor and the anticipated project site is not listed in the GAMAQI as a source that would create objectionable odors, the project is not expected to be a source of objectionable odors.

Based on the provisions of the GAMAQI, the proposed project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds. CO₂ and CH₄ will be vented, but they are odorless substances. The H₂S is being removed from the biogas before leaving the dairies through the pipeline. By capturing methane within the covered digester lagoon, the project would decrease the existing baseline odors being generated at the dairies. Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the project emission estimates indicate that the proposed project would not be expected to adversely impact surrounding receptors. As such, the proposed project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant.*
3.4.4 - **BIOLOGICAL RESOURCES**

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 Wildlife or U.S. Fish and Wildlife Service?  
   - [ ] Potentially Significant Impact  
   - [ ] Less than Significant Impact with Mitigation Incorporated  
   - [ ] Less-than-Significant Impact  
   - [ ] No Impact

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 U.S. Fish and Wildlife Service?  
   - [ ] Potentially Significant Impact  
   - [ ] Less than Significant Impact with Mitigation Incorporated  
   - [ ] Less-than-Significant Impact  
   - [ ] No Impact

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?  
   - [ ] Potentially Significant Impact  
   - [ ] Less than Significant Impact with Mitigation Incorporated  
   - [ ] Less-than-Significant Impact  
   - [ ] No Impact

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?  
   - [ ] Potentially Significant Impact  
   - [ ] Less than Significant Impact with Mitigation Incorporated  
   - [ ] Less-than-Significant Impact  
   - [ ] No Impact

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  
   - [ ] Potentially Significant Impact  
   - [ ] Less than Significant Impact with Mitigation Incorporated  
   - [ ] Less-than-Significant Impact  
   - [ ] No Impact

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?  
   - [ ] Potentially Significant Impact  
   - [ ] Less than Significant Impact with Mitigation Incorporated  
   - [ ] Less-than-Significant Impact  
   - [ ] No Impact

**Discussion**

A biological reconnaissance survey was conducted to determine whether there are sensitive biological resources that might be adversely affected by the proposed project. The evaluation is based upon existing site conditions, the potential for sensitive biological resources to occur
on and in the vicinity of the project site, and any respective impacts that could potentially occur.

In addition to providing an evaluation of the project’s impacts to biological resources, the report includes a detailed description of the regulatory environment as it relates to biological resources.

A literature search of the California Department of Fish and Wildlife’s California Natural Diversity Database (CNDD) (CNDDB 2018), California Native Plant Society (CNPS 2018), and United States Fish and Wildlife Service Endangered Species List (USFWS 2018) was conducted to identify special-status plant and wildlife species with the potential to occur within the project site and vicinity (the surrounding nine quads and a 10-mile radius). The results of the database inquiry were subsequently reviewed to evaluate the potential for occurrence of special-status species on or near the project site prior to conducting the biological reconnaissance survey.

On Friday April 13, 2018, QK biologists conducted a biological reconnaissance survey of the project site and pipeline route with a 50-foot buffer area, where feasible. An additional survey was conducted on June 28th along a portion of the pipeline route. The purpose of the surveys was to determine the locations and extent of potential plant communities and sensitive habitats, and the potential for occurrence of special-status plant and animal species within the project site and surrounding buffer area. The entire project site and pipeline route was surveyed including the 50-foot buffer area, where feasible. Survey methodologies included walking or driving around the proposed project site, which was under cultivation, and driving along the pipeline routes while scanning for any potential sensitive plant communities, plant species or wildlife species. Photographs were taken to document the existing landscape of the project site and adjacent land uses, detailed notes on observed plant and wildlife species and site conditions were taken while conducting the survey.

As noted, the project site was under cultivation at the time of the survey. The surrounding properties to the east, south and west of the Project site were also under crop cultivation and included highly disturbed dirt access roads. The pipeline route is either within existing County ROW, or on land used by the existing dairies under cultivation. The property to the north includes an existing agribusiness facility that is highly disturbed with various large farm equipment and several small tanks. No small mammal burrows, potential dens, or nests were observed on the project site, the dirt access roads near or in the vicinity of the site or pipeline.

Impact #3.4.4a – Would the project 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?

The literature search determined that there is a potential for several special-status species to be present on the project site. An evaluation of each of the potential special-status species, which included habitat requirements, likelihood of required habitat to occur within the
project site, and a comparison to the CNDDB records was conducted. The results of this evaluation concluded that no special-status plant species are anticipated to occur on or near the project site and four wildlife species have a reasonable potential to occur on or near the project site.

**General Wildlife and Plant**

Most of the project site has experience significant historical and ongoing ground disturbance from agricultural uses and dairy farm development surrounding the project site. The wildlife species inhabiting the project site and immediate surrounding area include those typically found in moderate to heavily disturbed habitats associated with urban development zone of the San Joaquin Valley.

A total of 20 bird species, seven mammal species, and one amphibian species, or sign of, were identified during the survey. A total of 18 plant species were identified during the survey. Illustrates the observed species while conducting the reconnaissance level survey.

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Agelaius phoeniceus</em></td>
<td>red-winged blackbird</td>
</tr>
<tr>
<td><em>Anas platyrhynchos</em></td>
<td>mallard</td>
</tr>
<tr>
<td><em>Ardea alba</em></td>
<td>great egret</td>
</tr>
<tr>
<td><em>Ardea herodias</em></td>
<td>great blue heron</td>
</tr>
<tr>
<td><em>Bos taurus</em></td>
<td>domestic cow</td>
</tr>
<tr>
<td><em>Bubo virginanus</em></td>
<td>great horned owl</td>
</tr>
<tr>
<td><em>Buteo jamaicensis</em></td>
<td>red-tailed hawk</td>
</tr>
<tr>
<td><em>Buteo swainsoni</em></td>
<td>Swainson’s hawk</td>
</tr>
<tr>
<td><em>Canis lupus familiaris</em></td>
<td>domestic dog</td>
</tr>
<tr>
<td><em>Capra aegagrus hircus</em></td>
<td>domestic goat</td>
</tr>
<tr>
<td><em>Charadrius vociferus</em></td>
<td>killdeer</td>
</tr>
<tr>
<td><em>Corvus brachyrhynchos</em></td>
<td>American crow</td>
</tr>
<tr>
<td><em>Corvus corax</em></td>
<td>common raven</td>
</tr>
<tr>
<td><em>Equus asinus</em></td>
<td>domestic donkey</td>
</tr>
<tr>
<td><em>Falco mexicanus</em></td>
<td>prairie falcon</td>
</tr>
<tr>
<td><em>Falco sparverius</em></td>
<td>American kestrel</td>
</tr>
<tr>
<td><em>Felis catus</em></td>
<td>domestic cat</td>
</tr>
<tr>
<td><em>Fulica americana</em></td>
<td>American coot</td>
</tr>
<tr>
<td>Geomyidae</td>
<td>gopher*</td>
</tr>
<tr>
<td><em>Himantopus mexicanus</em></td>
<td>black-necked stilt</td>
</tr>
<tr>
<td><em>Lithobates catesbeianus</em></td>
<td>bull frog</td>
</tr>
<tr>
<td><em>Melospiza melodia</em></td>
<td>song sparrow</td>
</tr>
<tr>
<td><em>Numenius americanus</em></td>
<td>long-billed curlew</td>
</tr>
<tr>
<td>Scientific Name</td>
<td>Common Name</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Otospermophilus beecheyi</td>
<td>California ground squirrel</td>
</tr>
<tr>
<td>Plegadis chihi</td>
<td>white faced ibis</td>
</tr>
<tr>
<td>Tyrannus verticalis</td>
<td>western kingbird</td>
</tr>
<tr>
<td>Xanthocephalus xanthercephalus</td>
<td>yellow-headed blackbird</td>
</tr>
<tr>
<td>Zenaida macroura</td>
<td>mourning dove</td>
</tr>
</tbody>
</table>

**Plants**

- Amsinckia menziesii - fiddleneck
- Avena fatua - wild oat
- Brassica nigra - black mustard
- Bromus rubens - red brome
- Cynodon dactylon - Bermuda grass
- Equisetum sp. - horsetail reed
- Erodium cicutarium - red-stem filaree
- Eucalyptus globulus - eucalyptus
- Hordeum murinum - hare barley
- Medicago sativa - alfalfa
- Phoenix dactylifera - date palm
- Phoenix dactylifera - pistachio
- Pinus sp. - Pine tree
- Populus sp. - Cottonwood
- Sisymbrium irio - London rocket
- Solanaceae - nightshade
- Triticum sp. - Wheat
- Vitis vinifera - grape
- Washingtonia robusta - queen palm

*Indicates that only sign (scat, tracks, prey remains, dens, etc) were observed

**Sensitive Habitats and Special-Status Species**

**Special-Status Wildlife**

Protocol survey for specific special-status wildlife species were not conducted for this report as it was determined by the consulting biologist that such surveys were not warranted due to the condition of the project site.

Based on the survey there are 31 special-status wildlife species that have the potential to occur within the five subject quadrangle and 13 surrounding quadrangles. Table 3.4.4-1 shows that there are 19 wildlife species found in the CNDDB that are found within a 10-mile buffer of the project site. Of the 19 species, a total of 15 can be eliminated from consideration due to the lack of suitable habitat within the project site. The remaining four species have a low, moderate, or high potential to occur within the project site and vicinity. There is one species with a low potential (i.e. San Joaquin kit fox) to occur on the project site, one species (i.e. tricolored blackbird) have a moderate potential to occur, and two species (i.e. Swainson’s hawk and yellow-headed blackbird) are present on the project site.
Figure 3.4.4-1
CNDDB Reptiles and Amphibians
Figure 3.4.4-2
CNDDB Birds
Figure 3.4.4-3
CNDDB Mammals
San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) has a low potential to occur within the project site and immediate surrounding area. The nearest historical CNDDB record (1975) for SJKF observation occurred in close proximity of the project site. There is a low potential for SJKF to reside or forage in the agricultural fields surrounding the project site due to the lack of suitable habitat. There were no potential dens observed within the project area. No San Joaquin kit fox or sign were observed at the time of the survey. However, the species is known to occur in the vicinity of the project and could potentially be present from time to time as transients.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) has a moderate potential to occur within the project and immediate surrounding area. The nearest historical CNDDB record (2014) for tricolored blackbird observation occurred in close proximity of the project site. Tricolored blackbird is known to inhabit or forage in cattail or tule marshes, or open habitats such as farm fields, pastures, or cattle pens. There is a moderate potential for tricolored blackbird to reside or forage in the agricultural fields surrounding the project site to the north, south, east, and west. No tricolored blackbird was observed at the time of the survey.

Yellow-Headed Blackbird

Yellow-headed blackbird (*Xanthocephalus xanthocephalus*) are known to occur in both freshwater and wetlands areas and in nearby farm fields. The area surrounding the project site is currently and has historically been used for agricultural production. One yellow-headed blackbird was observed at the time of the survey. No nesting yellow-headed blackbird was observed during the reconnaissance survey.

Swainson’s Hawk

Swainson’s hawk (*Buteo swainsoni*) are known to forage in open agricultural fields, such as hay or alfalfa. The area surrounding the project site is currently and has historically been used for such agricultural production. Several Swainson’s hawks were observed at the time of survey in several locations (Figure 3.4.4-4). No nesting Swainson’s hawk was observed during the reconnaissance survey; however, Swainson’s hawk observed were foraging on or near the project site.

Burrowing owl

Burrowing owl (*Athene cunicularia*) are known to forage in open landscapes including grasslands, rangelands, agricultural areas, deserts, or open areas with low vegetation. The area surrounding the project site is currently and has historically been used for agriculturally purposes. No burrowing owls or it’s sign (i.e. burrows, whitewash, scat, tracks) were observed at the time of the reconnaissance survey. There is moderate potential for the burrowing owl to reside or forage in the agricultural fields surrounding the project site to the south, east, and west.
Figure 3.4.4-4
Observed Biological Resources
Tipton kangaroo rat

Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) are limited to the arid landscape found on the Valley floor of the Tulare Basin. They are typically found in areas of scattered woody shrubs and ground cover of typically non-native or native annual grasses and forbs. They predominateley feed on seeds with some herbaceous vegetation and insects. No Tipton kangaroo rat or its sign (i.e. burrows, scat, or tracks) were observed at the time of the reconnaissance survey. Due to the lack of suitable foraging habitat, there is low potential for the Tipton kangaroo rat to reside or forage in the agricultural fields surrounding the project site.

San Joaquin kangaroo rat

San Joaquin kangaroo rat or Fresno kangaroo rat (*Dipodomys nitratoides*) historically were known to occur within the San Joaquin Valley floor but are now currently only found in Fresno, Madera, and Merced Counties. Typically, inhabiting areas that are uncultivated grasslands, alkali sink shrubland, or sometimes seasonally flooded wetland areas. No San Joaquin kangaroo rat or its sign (i.e. burrows, scat, or tracks) were observed at the time of the reconnaissance survey. Due to the lack of suitable foraging habitat, there is low potential for the San Joaquin kangaroo rat to reside or forage in the vicinity of the project site.

Blunt nosed leopard lizard

Blunt-nosed leopard lizard (*Gambelia sila*) inhabit open, with sparsely vegetated areas within the San Joaquin Valley at lower elevations. They predominateley feed on insects (i.e. grasshoppers, and crickets) and other lizards. No blunt-nosed leopard lizard or its sign (i.e. burrows, scat, or tracks) were observed at the time of the reconnaissance survey. Due to the lack of suitable foraging habitat, there is low potential for the blunt-nosed leopard lizard to reside or forage in the vicinity of the project site.

Conclusion

With the exception of the Swainson’s hawk and yellow-headed blackbird, no special-status species or sign were observed during the reconnaissance survey.

Special-Status Plants

There are nine plant species and three plant communities identified by the CNDDB that are found within a 10-mile buffer of the project site. However, based on the survey, there are no special-status plant species that have the potential to occur within the five subject quadrangles and 13 surrounding quadrangles.

The project site and surrounding area has been disturbed for years due to ongoing agriculture crop cultivation and dairy farm operations. The project site and vicinity does not provide suitable habitat for any of these special-status plant species.
Figure 3.4.4-5
CNDDB Plants
No special-status plant species were identified during the biological reconnaissance survey. A total of 18 plant species were observed during the survey of the project site (Table 3.4.4-1). Although protocol level botanical surveys were not conducted and the reconnaissance survey did not coincide with optimum blooming periods for all plant species, it is not anticipated that special-status plant species will be encountered on the project site.

Through implementation of mitigation measures listed below, impacts of the proposed project would not 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. Therefore, the project will have a less-than-significant impact with incorporation of mitigation measures.

**MITIGATION MEASURE(S)**

**MM BIO-1**: Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.

Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

<table>
<thead>
<tr>
<th>Den Type</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Den</td>
<td>50-foot radius</td>
</tr>
<tr>
<td>Known Den</td>
<td>100-foot radius</td>
</tr>
<tr>
<td>Natal/Pupping Den (Occupied and Unoccupied)</td>
<td>Contact U.S. Fish and Wildlife Service for guidance</td>
</tr>
<tr>
<td>Atypical Den</td>
<td>50-foot radius</td>
</tr>
</tbody>
</table>

Buffer zones shall be considered Environmentally Sensitive Areas (ESAs) and no ground-disturbing activities shall be allowed within a buffer area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) shall be contacted upon the discovery of any natal or pupping dens.

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (United States Fish and Wildlife Service, 2011).

**MM BIO-2**: Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing
activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.

**MM BIO-3:** During all construction-related activities, the following mitigation shall apply:

- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.
- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.
- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
- 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 four inches or greater that are stored at a construction site for one or more overnight periods shall 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 shall not be moved until the USFWS 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.
- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal
legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

- 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 shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. 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 USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

- All sightings of the San Joaquin 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 shall also be provided to the USFWS at the address below.

- Any project-related information required by the USFWS 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 W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

**MM BIO-4:** All fencing constructed on the project site shall be wildlife friendly. In order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

**MM BIO-5:** If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

**MM BIO-6:** If construction of the project occurs during Swainson’s hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:
• Protocol nesting surveys for Swainson’s hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between March 20 and April 20. If no nests are observed, no further action is necessary.

• If active Swainson’s hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.

**MM BIO-7:** If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

**MM BIO-8:** The measures listed below shall be implemented prior to and during construction at the project site, to protect the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

• All construction activity shall occur during daylight when kangaroo rats are less active;

• A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured, consultation with California Department of Fish and Wildlife is required; and

• During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated.*
Impact #3.4.4b – Would the project 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 U.S. Fish and Wildlife Service?

There are three sensitive natural communities; including Northern Claypan Vernal Pool, Valley Sacaton Grassland, and Valley Sink Scrub, with the potential to occur within 10-miles of the project site. The project site is highly disturbed, surrounded by disturbed cultivated land and does not provide habitat to maintain these communities. No sensitive natural communities were identified within the project site, the buffer area or the pipeline route during the biological reconnaissance survey. Although protocol-level botanical surveys were not conducted, it is unlikely that these habitat communities exist in the project area due to heavy disturbance of the project site and surrounding vicinity. There are no anticipated impacts to sensitive natural communities as a result of the proposed project. The project site covers an area of approximately 30,000 square feet and approximately 37 miles of low-pressure HDPE biogas gathering lines.

Riparian habitat is defined as lands that are influenced by a river, specifically the land area that encompasses the river channel and its current or potential floodplain. With respect to sensitive natural communities, due to the extensive agricultural development that has occurred, there are no identified sensitive natural communities located within or in close proximity to the project site. The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. Therefore, the project’s impacts would be less than significant.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

Impacts would be less than significant.

Impact #3.4.4c – Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The United States Army Corps of Engineers (USACE) has regulatory authority over the Clean Water Act (CWA), as provided for by the EPA. The USACE has established specific criteria for the determination of wetlands based upon the presence of wetland hydrology, hydric soils, and hydrophilic vegetation. There are no federally protected wetlands or vernal pools that occur within the project site.

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction under Section 404 of the CWA and State jurisdiction under the Porter-Cologne Water Quality Control Act. Streams and ponds typically meet the criteria for State jurisdiction under Section 1602 of the California Fish and Game Code. There are no features on the project site that would meet the criteria for either federal or State jurisdiction. No waters of the U.S., including wetlands, or waters of the State were observed on the project.
site. Therefore, the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA.

Accordingly, there are no wetlands or Waters of the U.S. occurring on the project site. There would be no impact to federally protected wetlands or waterways as a result of the proposed project. Therefore, impacts would be considered less than significant.

However, the gathering lines will cross several existing irrigation drainages or canals, as well as Cross Creek. Cross Creek may be considered Waters of the U.S. or Waters of the State. As proposed, the pipeline will be installed using either a jack and bore method under the drainages or an open cut method to traverse the drainages and Cross Creek. If the jack and bore method is used, there would be no disturbance of the drainage bed and bank, and therefore impacts would be considered less than significant. If the open cut method is used, as required by MM BIO-9, prior to commencement of gathering pipeline construction, a delineation of the Cross Creek would be conducted by a qualified biologist to determine if the drainage was considered Waters of the U.S. or Waters of the State, identify the bed and bank, and determine the amount of disturbance area that would be required. Applications for the appropriate permits such as a 401 Water Quality Certification, a Section 404 Permit or a Section 1602 Permit would be obtained prior to any construction activities. Implementation of MM BIO-9 would reduce impacts to less than significant.

**Mitigation Measure(s)**

**MM BIO-9:** Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.

**Level of Significance**

Impacts would be *less than significant with mitigation incorporated.*

**Impact #3.4.4d – Would the project 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?**

Wildlife migratory corridors are described as a narrow stretch of land that connects two open pieces of habitat that would otherwise be unconnected. These routes provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat and are important elements of resident species’ home ranges.
Figure 3.4.4-6
Wetlands and Hydrology
No significant wildlife movement corridors, core areas, or essential habitat connectivity areas occur on or near the project site. The survey conducted for the project did not result in evidence of a wildlife nursery being present on the project site or immediate surrounding area, and there is no aquatic habitat to support fish species. The various irrigation canals meandering through the project area and dirt roads bisecting the agricultural fields may be utilized by some wildlife species as a migratory corridor. However, there is no native habitat in the vicinity of the project site for wildlife species to in habitat. Additionally, the land surrounding the project site is already under agricultural cultivation that would sever wildlife movement through the site and eliminate any nursery site.

However, there are several nearby trees which could serve as potential nesting for avian species or migrating/roosting bats. The project site and pipeline construction would be of short duration, with minimal ground disturbance or the use of large equipment and completed during daylight hours. Once operational, impacts to biological resources would be considered less than significant. Therefore, it is not anticipated to substantially affect bats or other wildlife. Implementation of MM BIO-1 through MM BIO-9 would reduce any potential impacts to less-than-significant levels.

The proposed project would not interfere 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. There the project's impact would be less than significant.

**MITIGATION MEASURE(S)**

Implementation of MM BIO-1 through MM BIO-9.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated.*

**Impact #3.4.4e – Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The project site is located within Kings County and must comply with provisions contained in the 2035 Kings County General Plan. The General Plan includes goals, objectives and policies (III. Resource Conservation Policies D and E) to address the protection of special-status wildlife and their habitats (County of Kings, 2010).

Resource Conservation Element Policy D1.1.1 and RC Policy E1.1.1 requires biological evaluations of projects prior to construction. As noted previously in Impact #3.4.4a, mitigation would require a preconstruction clearance survey prior to any ground disturbance. In addition, if any listed species are observed during the clearance survey, specific avoidance and minimization measures such as buffers and consultation with wildlife agencies will be applied to avoid impacts to biological resources. With the implementation
of MM BIO-1 through MM BIO-9, impacts to biological resources would be less than significant.

The project would not conflict with any local policies or ordinances protecting biological resources. Implementation of the proposed project would have no impact related to policies or ordinances protecting biological resources.

**Mitigation Measure(s)**

Implementation of MM BIO-1 through MM BIO-9.

**Level of Significance**

Impacts would be *less than significant with mitigation incorporated.*

**Impact #3.4.4f – Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?**

There are no adopted Habitat Conservation Plans or Natural Community Conservation Plans that would apply to this project site. The project site is not located within the boundaries of any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan or any other local, regional, or State conservation plan. Therefore, implementation of the proposed project would have no conflict related to an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact.*
3.4.5 - CULTURAL RESOURCES

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? ☐ ☒ ☐ ☐

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? ☐ ☒ ☐ ☐

c. Disturb any human remains, including those interred outside of formal cemeteries? ☐ ☒ ☐ ☐

Discussion

The analysis presented in this section is based on a cultural resources records (RS# 18-158) search conducted for the proposed project by QK archeologist Robert Parr, MA, RPA at the Southern San Joaquin Valley Information Center (SSJVIC), a part of the California Historical Resources Information System (see Appendix B). The Lead Agency requested a records search of the Sacred Land File (SLF) by the Native American Heritage Commission.

Impact #3.4.5a – Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

The 2035 Kings County General Plan Resource Conservation Element states that the County has a number of historical sites, four of which are included on the National Register of Historic Places, three are designated as California Historical Landmarks, and the remaining are identified as being historic sites of local importance (Kings County, 2010). The proposed project is located within a predominantly agricultural area and does not contain any listed historic resources, nor is it located within an identified historic district. The project would have no impact on registered historic resources.

The records search covered an area within 0.25 miles of the pipeline route and included a review of the National Register of Historic Places (NRHP), California Points of Historical Interest, California Registry of Historic Resources (CRHR), California Historical Landmarks, California State Historic Resources Inventory, and a review of cultural resource reports on file.

The records search indicated that three linear cultural resource surveys cross the alignment at right, or at near-right, angles at three separate points. Four additional surveys were conducted immediately adjacent to, although not on, for approximately two miles of the...
alignment. No further cultural resource surveys have been performed within 0.25 miles of the proposed pipeline alignment.

Three cultural resource properties have been recorded on or within 0.25 miles of the proposed pipeline. These include the routes of the historic Burlington Northern and Santa Fe Railway (P-16-120) and Highline Canal (P-16-253). Combined, they cross the pipeline route at four separate points.

The railroad previously was evaluated for significance and found to be ineligible for inclusion in the NRHP due to lack of historical integrity (Love et al. 2001). The Highline Canal (ca. 1930) has been evaluated and found to be ineligible for inclusion in the NRHP or the CRHR (JRP Historical Consulting 1997).

One additional resource close to the alignment is the PG&E Guernsey Substation (P-16-352) at the NW corner of Kent and 11th Avenues. The facility was built by the San Joaquin Light and Power Corporation in 1930. The site has previously been evaluated and found ineligible for listing in the NRH Places or California Register of Historic Resources and does not meet the criteria to be a historical resource for the purposes of CEQA. No further cultural resources have been recorded within 0.25 miles.

Although considered unlikely, since there is no recorded evidence or surface evidence of historical or archaeological resources within the project area or temporary staging area, there is the potential for project-related excavation and construction to potentially damage or destroy previously undiscovered cultural resources. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. This is considered a potentially significant impact. Mitigation is proposed requiring implementation of standard inadvertent discovery procedures to reduce impacts to previously undiscovered subsurface historical resources.

The Santa Rosa Rancheria Tachi Yokut Tribe requested consultation with the Lead Agency regarding the proposed project pursuant to AB 52, Public Resources Code (PRC) Section 21080.3.1. Consultation was conducted and the agreed upon mitigation measures outlined will reduce potential impacts of the proposed project to less than significant levels.

**Mitigation Measure(s)**

**MM CR-1:** The following measures shall be implemented, as necessary, in conjunction with the construction of the project

a) The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.

b) The project proponent shall retain Santa Rosa Rancheria Cultural staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground
disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

c) The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

d) If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

e) Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during construction. Tribal participation would be dependent upon the availability and interest of the Tribe.

f) Upon coordination with the Kings County Community Development Agency, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

**MM CR-2** In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of Hanford Lakeside Dairy Digester Project:

c) Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop in the vicinity of the find and
the Kings County Coroner shall be notified immediately. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD). The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(e) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

d) Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated*.

**Impact #3.4.5b – Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?**

See discussion in Impact #3.3.5a, above. Although considered unlikely since there is no indication of any prehistoric resources on the project site, subsurface construction activities associated with the proposed project could potentially damage or destroy previously undiscovered archaeological resources. Mitigation is proposed requiring implementation of standard inadvertent discovery procedures to reduce potential impacts to previously undiscovered subsurface historic and archaeological resources.

**MITIGATION MEASURE(S)**

Implement Mitigation Measure MM CR-1 and MM CR-2.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant impact with mitigation incorporated*. 
Impact #3.4.5c – Would the project disturb any human remains, including those interred outside of formal cemeteries?

As previously noted, a search of the California NAHC Sacred Lands File search revealed no records of known sensitive cultural resources in the vicinity of the project area. Human remains are not known to exist within the project area. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Mitigation Measure MM CR-2 has been included in the unlikely event that human remains are found during ground-disturbing activities. Implementation of MM CR-1 and MM CR-2 would reduce impacts to cultural resources. Impacts would be less than significant with implementation of mitigation.

**MITIGATION MEASURE(S)**


**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant impact with mitigation incorporated.*
3.4.6 - **ENERGY**

Would the project:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of natural resources, during project construction?

No mitigation is required.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant*.

**Impact #3.4.6b – Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?**

The 2035 Kings County General Plan – Resource Conservation Element identifies the importance in alternative and renewable energy sources for the County's future energy production (County of Kings, 2010). Sources of biomass, or raw material suitable for
conversion to energy, include manure from dairy operations and municipal waste at landfill sites. To improve air quality and achieve greenhouse gas emissions reductions mandated by recent State legislation (AB 32), sustainable and renewable alternative energy sources including wind, solar, hydroelectric and biomass energy can be promoted, and energy conservation measures encouraged. RC Policy G1.2.1 requires the review of biomass energy projects through the conditional use permit (CUP) process to ensure projects meet all air quality requirements. The project is seeking approval of CUP 17-14 and is subject to County review.

As noted in Impact #3.4.8a, the project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF₆), the other gases identified as GHG in AB32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation.

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The proposed project will comply with all regulations and standards established by the SJVAPCD that have been designed to ensure that the region meets the goals of AB 32, SB 1078, SB 107 and Executive Order S-14-08.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant.*
### 3.4.7 - Geology and Soils

Would the project:

- **a.** Directly or indirectly cause 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.
  - [ ] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [x] No Impact
  - ii. Strong seismic ground shaking?
  - [ ] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [ ] No Impact
  - iii. Seismic-related ground failure, including liquefaction?
  - [ ] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [ ] No Impact
  - iv. Landslides?
  - [ ] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [ ] No Impact
- **b.** Result in substantial soil erosion or the loss of topsoil?
  - [x] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [ ] No Impact
- **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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?
  - [ ] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [ ] No Impact
- **d.** Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
  - [ ] Potentially Significant Impact
  - [x] Less than Significant Impact with Mitigation Incorporated
  - [ ] Less-than-Significant Impact
  - [ ] No Impact
- **e.** Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?
  - [ ] Potentially Significant Impact
  - [ ] Less than Significant Impact with Mitigation Incorporated
  - [x] Less-than-Significant Impact
  - [ ] No Impact
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

**Discussion**

Impact #3.4.7a(i) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. Per the Department of Conservation, California Geologic Survey Regulatory Maps (Department of Conservation, 2015), the nearest fault is the Nunez Fault, which lies in the Alcalde Hills 7.5-minute quadrangle, northwest of Coalinga in Fresno County. According to the 2035 Kings County General Plan, there are no known major fault systems within Kings County. The greatest potential for geologic disaster in Kings County is posed by the San Andres Fault, which is located approximately 50 miles west of project (Kings County, 2010). The distance from the nearest active faults precludes the possibility of fault rupture on the project site. Therefore, there would be no impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact.*

Impact #3.4.7a(ii) – Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The project site is located within an area designated as Zone V1 or Valley Zone 1, which is identified as the area of least expected seismic shaking (see Figure HS-2 on page HS-10 of the Health and Safety Element of the 2035 Kings County General Plan). The potential for ground shaking is discussed in terms of the percent probability of exceeding peak ground acceleration (% g) in the next 50 years (Kings County, 2010). The project site’s exceedance probability in the next 50 years is between 20-30 percent, which is the lowest within the County. Although the project area could potentially experience ground shaking, the magnitude of the hazard would not be severe as indicated by the Health and Safety Element of the 2035 Kings County General Plan. Therefore, a less-than-significant impact would occur.
MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be less than significant.

Impact #3.4.7a(iii) – Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismically related ground failure, including liquefaction?

Liquefaction could result in local areas during a strong earthquake or seismic ground shaking where unconsolidated sediments and a high-water table coincide. The project site is noted in Figure HS-2 Seismic Safety Map of the 2035 Kings County General Plan as an area not subject to potential liquefaction. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure including liquefaction. Structures constructed as part of the project would be required by State law to be constructed in accordance with all applicable International Building Code (IBC) and California Building Code (CBC) Earthquake Construction Standards, including those relating to soil characteristics. Adherence to all applicable regulations would avoid any potential impacts to structures resulting from liquefaction at the project site. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be less than significant.

Impact #3.4.7a(iv) – Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site currently undeveloped and is essentially flat. Similarly, the surrounding area is predominately cultivated or uncultivated cropland, which experiences frequent discing. The site’s topography would not change substantially as a result of project development. The project site is located in an area as having “low” (less than 1.5 percent of area involved) landslide incidents (see Figure HS-3 California Landslide Hazards Map, 2035 Kings County General Plan). Since the site is essentially flat in nature from the existing agricultural activities with no surrounding slopes and it is not considered to be prone to landslides the project would not expose people or structures to potential substantial adverse effects from landslides. Therefore, there would be no impact.
**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.7b – Would the project result in substantial soil erosion or the loss of topsoil?**

The project site contains Lakeside clay loam substratum, which is characterized as being somewhat poorly drained; very slow runoff; moderately slow permeability. Permeability is slow in the soils with clay strata. The Lakeside loam is deep, somewhat poorly drained soils that formed in alluvium from igneous and sedimentary rocks. Lakeside soils are on basin rims and alluvial plains and have slopes of zero to one percent (US Department of Agriculture, 2018).

The project involves the construction of a biogas facility and low-pressure gas pipelines that will be installed within existing road rights of way or private land. The development of the proposed facilities is not expected to subject the site to any extreme erosion problems. As is noted in Impact #3.4.9a, the State Water Resources Control Board’s (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit (No. 2012-0006-DWQ) for stormwater discharges associated with construction and land disturbance activities, the project proponent must develop and implement a Stormwater Pollution Prevision Plan (SWPPP) that specifies best management practices (BMPs) to prevent construction pollutants, including erosion of soils (such as topsoil), from moving offsite. MM HYD-1 below requires the preparation and implementation of a SWPPP to comply with the Construction General Permit requirements. Therefore, with implementation of MM HYD-1, the project would have a less-than-significant impact on soil erosion and loss of topsoil.

**Mitigation Measure(s)**

Implement MM HYD-1.

**Level of Significance**

The project would have a *less-than-significant impact with mitigation incorporated*.

**Impact #3.4.7d – Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

Expansive clay soils are subject to shrinking and swelling due to changes in moisture content over the seasons. These changes can cause damage or failure of foundations, utilities, and pavements. During periods of high moisture content, expansive soils under foundations can heave and result in structures lifting. In dry periods, the same soils can collapse and result in settlement of structures. According to the 2035 Kings County General Plan Health and Safety
Element (see Figure HS-4), the biogas facility site is located on Kimberlina fine sandy loam and Lakeside clay loam. The site is outside of the area identified as having expansive soil (County of Kings, 2010). In addition, Table 15 – Physical and Chemical Properties of the Soils in the USDA Kings County Soil Survey, the onsite soil is considered to have low shrink-swell or expansion potential (United States Department of Agriculture, 1986).

The gathering pipeline stretches approximately 37 miles, and is in contact with several soil types, including Grangeville fine sandy loam, Kimberlina fine sandy loam, Kimberlina saline alkali-Garces complex, Lakeside clay loam, Pico clay, and Westcamp loam. As noted in Table 3.4.7-1, a very limited portion of the project is considered to be in area of expansive soils as defined by the Kings County General Plan. However, the proposed project would not intensify shrink-swell behavior and the potential for expansive soil conditions would be accounted for in the design and construction practices of the project. Expansive soil conditions would also be accounted for in the design and construction of the pipeline. Compliance with the policies of the Kings County General Plan, Development Code, and the CBC would reduce potential site-specific impacts to less-than-significant levels.

Table 3.4.7-1
Soils Types and Properties

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grangeville Fine Sandy Loam</td>
<td>Found in alluvial fans and is a very deep and well-drained soil with</td>
</tr>
<tr>
<td></td>
<td>moderately rapid permeability. Runoff for this soil type is slow and the</td>
</tr>
<tr>
<td></td>
<td>hazard of water erosion is slight.</td>
</tr>
<tr>
<td>Kimberlina Fine Sandy Loam Kimberlina Fine</td>
<td>Found in alluvial fans and is a very deep and well-drained soil with</td>
</tr>
<tr>
<td>Sandy Loam</td>
<td>moderately rapid permeability. Runoff for this soil type is slow and the</td>
</tr>
<tr>
<td></td>
<td>hazard of water erosion is slight.</td>
</tr>
<tr>
<td>Kimberlina Saline Alkali-Garces Complex</td>
<td>Soils are very deep and well drained soils found in alluvial fans.</td>
</tr>
<tr>
<td></td>
<td>Component shows moderately slow permeability while the Garces Loam</td>
</tr>
<tr>
<td></td>
<td>component shows very slow permeability. Runoff in this unit is very</td>
</tr>
<tr>
<td></td>
<td>slow and the possibility of erosion is slight.</td>
</tr>
<tr>
<td>Lakeside Clay Loam Lakeside Clay Loam</td>
<td>Drained soils are saline-alkali soils and show moderately slow</td>
</tr>
<tr>
<td></td>
<td>permeability. Runoff on these soils is very slow and the</td>
</tr>
<tr>
<td></td>
<td>hazard of water erosion is slight.</td>
</tr>
<tr>
<td>Lakeside Loam</td>
<td>Soils are very deep, saline alkali soils found in basin rims and alluvial</td>
</tr>
<tr>
<td></td>
<td>plains. Lakeside Loam, partially drained soils generally have a fine-</td>
</tr>
<tr>
<td></td>
<td>loamy texture and are somewhat poorly drained.</td>
</tr>
<tr>
<td>Pitco Clay</td>
<td>Soil is a very deep, saline-alkali</td>
</tr>
<tr>
<td></td>
<td>soil found in basin rims and flood plains. The soil is somewhat poorly</td>
</tr>
<tr>
<td></td>
<td>drained with slow permeability and</td>
</tr>
<tr>
<td></td>
<td>high shrink-swell potential.</td>
</tr>
<tr>
<td>Westcamp Loam</td>
<td>Partially drained soil is a very deep, saline alkali soil found in</td>
</tr>
<tr>
<td></td>
<td>basin rims and flood plains. The soil is somewhat poorly drained</td>
</tr>
<tr>
<td></td>
<td>with very slow permeability.</td>
</tr>
</tbody>
</table>

Source: USGS SURGO Soil Survey
**Mitigation Measure(s)**

**MM GEO-1** Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report shall be submitted to the Kings County Community Development Agency for review.

**Level of Significance**

The project would have a *less-than-significant impact with mitigation incorporated*.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.7e** - Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The project includes the installation or use of a septic system at the upgrading facility. Portable toilets will be provided to construction crews during construction activities. Once operational, maintenance staff will come from other existing facilities to do routine maintenance activities. Soils within the project site are similar to those in the area and are adequate to support the installation of a septic system. The nearby dairy and the existing agribusiness both utilize a septic system, the system will be installed to meet the requirements of the Kings County Building Department pursuant to Chapter 5, Article VI, Plumbing Code of the Kings County Building Ordinance. Therefore, impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact*.

**Impact #3.4.7f** – Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no unique geological features or known fossil-bearing sediments in the vicinity of the project site. The only known paleontological resource noted in the 2035 Kings County General Plan (Kings County, 2010) is the Kettlemen Hills fossil beds, which are approximately 21.5 miles southwest of the project.

However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction.
activities. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of less than significant.

**Mitigation Measure(s)**

**MM GEO-2:** During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2.

**Level of Significance**

Impacts would be *less than significant with mitigation incorporated.*
Figure 3.4.7-1
Soils Map
3.4.8 - GREENHOUSE GAS EMISSIONS

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? □ □ ☒ □

b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? □ □ ☒ □

Discussion

There have been significant legislative and regulatory activities that directly and indirectly affect climate change and GHGs in California. The primary climate change legislation in California is AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG emissions in California. GHGs, as defined under AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The California Air Resources Board (ARB) is the State agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. SB 32 was signed by the Governor in 2016, which would require the State Board to ensure that statewide greenhouse gas emissions are reduced to 40 percent below the 1990 level by 2030.

Impact #3.4.8a – Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project’s construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2), EMFAC2014, and the California Climate Action Registry General Reporting Protocol (Version 3.1) (Insight Environmental, 2018). These emissions are summarized in Table 3.4.8-1, below.

SJVAPCD’s current guidance for Valley land use agencies in addressing GHG emission impacts for new projects acknowledges the absence of numerical thresholds, and recommendations for a tiered approach to establish GHG impacts. Since the SJVAPCD’s guidance for addressing GHG impacts does not use numerical thresholds the County has decided to look at the South Coast Air Quality Management District’s (SCAQMD) thresholds to determine impacts. Currently SCAQMD has a threshold of 10,000 metric tons of CO₂e per year for construction emissions amortized over a 30-year project lifetime plus annual operation emissions. Since SCAQMD is the largest metropolitan area within California, this
threshold is considered a conservative approach for evaluation the significance of GHG emissions in a more rural area.

The project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6), the other gases identified as GHG in AB32.

Table 3.4.8-1
Estimated GHG Emissions (MT/year)

<table>
<thead>
<tr>
<th>Source</th>
<th>CO₂</th>
<th>CH₄</th>
<th>N₂O</th>
<th>CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019 Construction Emissions</td>
<td>522.78</td>
<td>0.137</td>
<td>0.000</td>
<td>526.21</td>
</tr>
<tr>
<td><strong>Operational Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Emissions</td>
<td>17.41</td>
<td>0.001</td>
<td>0.001</td>
<td>17.68</td>
</tr>
<tr>
<td>Stationary Source Emissions</td>
<td>0.000</td>
<td>0.001</td>
<td>0.000</td>
<td>0.002</td>
</tr>
<tr>
<td>Energy Emissions</td>
<td>3,556</td>
<td>0.569</td>
<td>4.640</td>
<td>3,561</td>
</tr>
<tr>
<td><strong>Total Project Operational Emissions</strong></td>
<td>3,573</td>
<td>0.570</td>
<td>4.640</td>
<td>3,578</td>
</tr>
<tr>
<td>Annualized Construction Emissions</td>
<td>17.43</td>
<td>0.005</td>
<td>0.000</td>
<td>17.54</td>
</tr>
<tr>
<td><strong>Project Emissions</strong></td>
<td>3,590</td>
<td>0.574</td>
<td>4.640</td>
<td>3,596</td>
</tr>
</tbody>
</table>

*Note: 0.00 could represent <0.00 1 Per South Coast AQMD’s Methodology
Source: Insight Environmental 2018

_Mitigation Measure(s)_

No mitigation is required.

_Level of Significance_

Impacts would be _less than significant._

Impact #3.4.8b – _Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?_

The strategies currently being implemented by CARB may help in reducing the project’s GHG emissions and are summarized in Table 3.4.8-2, below.

CEQA Guidelines §15130 notes that sometimes 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. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB 32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation.
Table 3.4.8-2
CARB Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description of Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Climate Change Standards</td>
<td>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.</td>
</tr>
<tr>
<td>Diesel Anti-Idling</td>
<td>In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling.</td>
</tr>
<tr>
<td>Other Light-Duty Vehicle Technology</td>
<td>New standards would be adopted to phase in beginning in the 2017 model year.</td>
</tr>
<tr>
<td>Alternative Fuels: Biodiesel Blends</td>
<td>CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.</td>
</tr>
<tr>
<td>Alternative Fuels: Ethanol</td>
<td>Increased use of ethanol fuel.</td>
</tr>
<tr>
<td>Heavy-Duty Vehicle Emission Reduction Measures</td>
<td>Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.</td>
</tr>
</tbody>
</table>

The proposed project will comply with all regulations and standards established by the SJVAPCD that have been designed to ensure that the region meets the goals of AB 32, SB 1078, SB 107 and Executive Order S-14-08.

Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a less-than-significant individual and cumulative impact on global climate change.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant.*
3.4.9 - **HAZARDS AND HAZARDOUS MATERIALS**

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

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?

c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d. Be located on a site that 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?

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 or excessive noise for people residing or working in the project area?

f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

**Discussion**

The analysis presented in this section is based on available data and a Safety Action Plan prepared for this project (see Appendix C).
Impact #3.4.9a – Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

**Project Construction**

Project construction-related activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction-related activities. As such, these materials are not anticipated to expose human health or the environment to undue risks associated with their use and no significant impacts will occur during construction activities.

Transportation, storage, use, and disposal of hazardous materials during construction activities will be required to comply with applicable federal, State, and local statutes and regulations. Transportation of hazardous materials is regulated by Department of Transportation and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release. In addition, Cal/OSHA is responsible for developing and enforcing workplace safety standards, including the handling and use of hazardous materials. Compliance of applicable federal, State and local regulations would reduce impacts during temporary construction activities to less-than-significant levels.

**Project Operation**

Biogas is a naturally occurring mixture of primarily methane and carbon dioxide. The biomethane will be transported via low-pressure gas pipelines from the digester to the onsite dewatering equipment and thence to the main gas upgrading biogas site. Methane is not toxic, but handling methane can be hazardous. In addition, methane can be flammable. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is flammable at concentrations between five percent and 15 percent in air. Unconfined mixtures of methane in air are not explosive; however, a flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses rapidly in air. Hydrogen sulfide scrubbers will be installed at each dairy to remove that chemical before the gas is moved through the gathering pipeline. Unintentional releases of biogas from dairy digester facilities or pipelines could pose risks to human health and safety.

**HYDROGEN SULFIDE (H₂S)**

The gathering lines will not contain H₂S in quantities above those listed by OSHA as hazardous to human health. This is a requirement of the SB 1383 pilot project funding, which this project has received. The H₂S will be scrubbed out at each dairy before entering the pipeline. H₂S scrubbers at each dairy will be carbon (or similar) media based. These scrubbers are common, and the spent media is considered non-hazardous and can be transported to a local landfill for disposal.
**Methane (CH₄)**

Methane makes up approximately 60-70 percent of the biogas -- the predominant balance of which is non-flammable carbon dioxide. Due to the amount of methane in the raw biogas (processed before injecting into the gathering pipeline) it is flammable only if mixed with air in certain proportions. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is explosive at concentrations between five percent and 15 percent in air by volume. A mixture of methane and air where the concentration of methane is outside the range specified above are non-explosive; however, it is flammable at higher concentrations -- a leak could result in the gas mixing with atmospheric oxygen and thereby diluting into the range at which it could ignite, if there were an ignition source available, resulting in a flame (but without explosive force since it would no longer be confined. Otherwise, the leaked digester Gas would be expected to disperse rapidly in air.

**Pipeline Sizing and Safety Factor**

Pipeline sizes will range from four inches to 20 inches for the project. Dimension Ratio (DR) 17 and/or DR 21 pipe will be used, with a wall thickness ranging from 0.24 inches to 1.18 inches depending on the DR and the pipe size. The pipeline will utilize fusion-welded joints, and the pipeline system will be pressure tested during construction to ensure it is installed without leaks. Maximum design pressure in the pipeline system for this project is 20 psi. Maximum working pressure for DR 17 pipe is 100 psi and DR 21 is 80 psi, providing a factor of safety of at least 4.0. The blowers will be equipped with a pressure sensors which will detect the change in pressure during an unlikely event this information will be transmitted to SCADA system and programmable logic controller which will process the information, record and trigger safety (shut down of the raw biogas injection into the pipeline) as necessary to address the risk. The SCADA controlled blowers feeding the biogas from the digesters into the pipeline are designed to inject biogas into the pipeline at a maximum working pressure of 20 psi; therefore, likelihood of over pressurization is minimal. Also, each pipeline trench will be buried with a metallic tape/tracer wire, which will detect the location of the pipe on the surface.

**Safety Measures**

The following measures will be implemented in the design process to minimize accidental breaches of the pipeline:

- The pipeline will be registered with the Utility Services Alert (USA) system. All construction projects are required to notify the Utility Service Alert system which will locate the location of the pipeline, so that it can be protected in place during construction;
- Marker posts will be installed at maximum 700-foot intervals warning of the presence of the pipeline and providing contact information of the pipeline operator;
- Copper clad steel tracer will be installed with the pipeline to aid in the future location of the pipeline by the pipeline operator;
• Marker tape will be installed one foot above the pipeline to warn excavators that the pipeline is located below the marker tape; and
• The pipe will be installed with a minimum of four feet of cover, which is below the depth of normal farming activities. In some instances, depending on the topography, the pipeline will be up to eight feet below grade.

In the unlikely event of an accidental breach of the pipeline, the following procedures will minimize risk to the public.

• The blowers that pressurize the pipeline are controlled by the central SCADA system, which can remotely turn off all of the system blowers. All upstream blowers will be turned off, which would stop the flow of biogas into the pipeline;
• High performance butterfly valves are located throughout the pipeline network. The valves near the breached section of pipeline will be closed to isolate the breach from the rest of the system.; and
• Local emergency personnel will be notified to restrict access to the area adjacent to the breach and assist with any required evacuations

A Safety Action Plan (Plan) has been prepared for the project (Appendix C). This plan includes procedures to ensure the safety of digester/dairy personnel and the public. This includes procedures in the unlikely event of blower failure, high gas temperatures or pressure. The plan outlines the management of methane (CH₄) and hydrogen sulfide (H₂S), as well as the procedures to follow should there be a breach in the gathering pipeline system. The plan also provides contact information in case of emergencies.

Operation activities will comply with the California Building Code, local building codes, and gas pipeline regulations. The California Public Utilities Code regulates the safety of gas transmission pipelines. Standard safety measures for anaerobic treatment facilities that will minimize the potential of biogas release. If released to the environment, methane will be dispersed rapidly in air, thus minimizing the hazards of exposure. Biogas transmission pipelines will be designed, constructed, and operated consistent with Pipeline and Hazardous Materials Safety Administration (PHSMA) Standards to minimize the risk of rupture and accidental release. The air district will also review and issue a permit for the facility, which would include measures to reduce impacts if a release event occurred.

The standards that Pipeline and Hazardous Materials Safety Administration (PHSMA) incorporates are parts of standards and specs developed by standard developing organizations such as American Society for Testing and Materials (ASTM) and American Gas Association (AGA). The following professional organizations and the associated standards for pipelines and aerobic digesters include:

*Gas Processors Suppliers Association (GPSA)*

• GPSA Engineering Data book

- ANSI/CSA B149.6-15 Code for digester gas, landfill gas, and biogas generation and utilization

American Society of Mechanical Engineers (ASME)

- ASME B31.8 – Gas Transmission and Distribution Piping Systems

National Fire Protection Association (NFPA)

- NFPA 55 – Compressed Gasses and Cryogenic Fluids Code
- NFPA 67 – Guide on Explosion Protection for Gaseous Mixtures in Pipe Systems

American Petroleum Institute (API)

- 6D – Specification for Pipeline and Piping Valves

Department of Transportation (DOT)

- DOT 49 CFR Part 192 – Transportation of Natural Gas and Other Gas by Pipeline: Minimum Federal Safety Standards

In addition, the American Society of Agricultural and Biological Engineers has been deemed administrator of the U.S. Technical Advisory Group for ISO/TC 255, Biogas. ISO/TC 255 oversees the development of international standards for anaerobic digesters, processing systems, environmental protection, and specific technical requirements of biogas production. These standards are in the process of being developed and are mentioned for reference.

- ANSI/CSA B149.6 - Significant sections from this standard are provided below. Section 8 is for Digester Gas, which is specific to municipal applications; Section 27 relates to Biogas.
  - ANSI/CSA B149.6-15, Section 8.3.2
  - ANSI/CSA B149.6-15, Section 27.1.2

By adhering to the applicable laws, standards and policies related to buildings and materials practices, the operation of the project is not expected to expose human health or the environment to undue risks associated with their use and no significant impacts will occur during operational activities.

H₂S will be captured and absorbed at each dairy, so no excessive releases are possible in the pipeline or cleanup facility. With the scrubber facility that is needed for cleaning the biogas
to remove hydrogen sulfide located at each dairy, flushing of the scrubbers will produce sulfur biogas scrubber effluent. The effluent would be collected and dried, leaving a residue. One potential use of this effluent could be as a soil amendment. As a soil amendment, it would be subject to the California Department of Food and Agriculture Code covering fertilizing materials (Food and Agricultural Code Division 7, Chapter 5). Compliance with existing safety regulations and widely accepted industry standards will minimize the hazard to the public and the environment. As such, mitigation is proposed that would require the project applicant to file a Hazardous Materials Business Plan (HMBP) as a part of the proposed project to address the storage of diesel fuels onsite. With the implementation of MM HAZ-1, the project would have a less-than-significant impact.

**Mitigation Measure(s)**

**MM HAZ-1:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved HMBP shall be submitted to the Kings County Community Development Agency.

**Level of Significance**

Impacts would be *less than significant with mitigation incorporated*.

**Impact #3.4.9b – Would the project 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?**

Kings County Department of Environmental Health Services is the Certified Unified Program Agency (CUPA) for the County. The CUPA unifies and consolidates the various requirements for businesses handling hazardous materials, generating or treating hazardous wastes, or operating aboveground or underground storage tanks, under one roof. Pursuant to requirements of CUPA, the project proponent will be required to file a Hazardous Material Business Plan. The business plan will consist of the following items: Hazardous Materials Business Plan Certification Form, Business Activities Page, Business Owner/Operator Identification Page, Hazardous Materials Inventory Pages(s), Site Map Form, Emergency Response Plans and Procedures, and Employee Training Program. As previously discussed, the project could involve the transport and use of hazardous materials including fuels, oils, mechanical fluids, and other chemicals such as sanitizers, and disinfectants to be used during the operation of the project site. Hazardous materials including fuel and other motor lubricants would be used during construction and operation. The types and quantities of hazardous materials to be used and stored onsite would not be of a significant amount to create a reasonably foreseeable upset or accident. The handling and transport of all hazardous materials onsite would be performed in accordance with all applicable federal, State, and local laws and regulations.
As noted in Impact #3.4.9a above, the proposed project has prepared a Safety Action Plan, and will also develop a Spill Prevention and Management Plan (SPMP) (see Appendix C). This plan addresses upset conditions related to gas leaks and material spillage onsite. The SPMP outlines design features and actions that would be taken in the unlikely event of a spill. These include double-wall construction of the condensate storage tank to meet secondary containment requirements, a six-inch concrete curb around the tank to contain spills, continuous electronic sensor monitoring and the use of a remote alarm system of liquid levels. Staff would also respond to shut down the equipment and apply absorbent materials should a spill occur. With the implementation MM HAZ-2, the project would have a less-than-significant impact.

Construction and operational activities will also be required to comply with the California fire code to reduce the risk of potential fire hazards. All project plans would comply with State and local codes and regulation. The Kings County Fire Department will be responsible for enforcing provisions of the fire code.

With the implementation of MM HAZ-1 and MM HAZ-2, the proposed project would not 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 and would therefore result in a less-than-significant impact with mitigation incorporated.

**MITIGATION MEASURE(S)**

**MM HAZ-2:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated.*

**Impact #3.4.9c – Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

The project site is not located within 0.25 miles of an existing school. The nearest school to the project site is the Lakeside Elementary School located approximately 1.9 miles west of the project. As previously discussed, all hazardous materials would be properly handled in accordance with applicable standards. The proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. Therefore, there would be no impact.
**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be no impact.

**Impact #3.4.9d** – Would the project 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?

An online search was conducted on March 5, 2018, of the California Environmental Protection Agency (CAL EPA) website (Cal EPA, n.d.) for Cortese Act locations on or near the project site. The Department of Toxic Substances Control (DTSC) website, Envirostor, indicated that there are no hazardous or toxic sites in the vicinity (within one mile) of the project site and pipeline (Department of Toxic Substances Control, 2015). The State Water Resources Control Board website, GeoTracker, indicated that there are no Permitted Underground Storage Tanks, Leaking Underground Storage Tanks, or any other cleanup sites on or in the vicinity (within one mile) of the project site (California Water Resources Board, n.d.). The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. The project site is not within the immediate vicinity of a hazardous materials site and would not impact a listed site. Therefore, there would be no impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be no impact.

**Impact #3.4.9e** – Would the proposed project be 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?

The project site and proposed pipeline route is not located within the Kings County Airport Land Use Compatibility Plan (ALUCP) (County of Kings, 1994), is not within two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area. The public airport covered under the ALUCP is the Hanford Municipal Airport, located approximately 5.5 miles northwest of the site. Therefore, there would be no impact.
**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact.*

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact.*

**Impact #3.4.9f – Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Kings County has in place an emergency plan to cope with natural disasters that are statewide or happen locally. The County Fire Department and locally stationed California Department of Forestry (CDF) are well prepared to fight fires locally as well as statewide.

According to the Evacuation Routes identified within the Health and Safety Element of the 2035 Kings County General Plan (Figure HS-20, page HS-33), the proposed project is not located along a State Highway or designated arterial, which is used as an emergency evacuation route. The nearest designated evacuation route is SR 43, located approximately one mile west of the project site. The proposed pipeline route runs near emergency routes 6th Avenue and SR 198.

The proposed project does not involve a change to any emergency response plan. Access to the site is via a driveway from the 7th Avenue. The width of new driveway is 20 feet, which is sufficient for fire trucks and other emergency vehicles to enter and exit the site. As noted on the project site plan (Figure 2-5), the proposed project has a secondary access gate that would meet all emergency access requirements of Kings County. Construction of the proposed project would not create an obstruction to surrounding roadways or other access routes used by emergency response units. The proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Therefore, no impact would occur.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact.*
Impact #3.4.9g – Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires?

The proposed project would not 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. The project site is not located within the vicinity of wildlands and is in an area classified as having a fire hazard severity zone of non-wildland/non-urban and moderate (Cal Fire, 2012). Therefore, there would be no impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be no impact.
3.4.10 - HYDROLOGY AND WATER QUALITY

Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. result in substantial erosion or siltation on- or off-site;

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv. impede or redirect flood flows?

d. In flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation?

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?


Discussion

Impact #3.4.10a – Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Project construction would cause ground disturbance that could result in soil erosion or siltation and subsequent water quality degradation offsite, which is a potentially significant impact. Construction-related activities would also involve the use of materials such as vehicle fuels, lubricating fluids, solvents, and other materials that could result in polluted runoff, which is also a potentially significant impact. However, the potential consequences of any spill or release of these types of materials are generally small due to the localized, short-term nature of such releases because of construction. The volume of any spills would likely be relatively small because the volume in any single vehicle or container would generally be anticipated to be less than 50 gallons.

As required by the State Water Resources Control Board’s (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit (No. 2012-0006-DWQ) for stormwater discharges associated with construction and land disturbance activities, the project proponent must develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices (BMPs) to prevent construction pollutants from contacting stormwater, with the intent of keeping all products of erosion from moving offsite. The project proponent is required to comply with the Construction General Permit because project-related construction activities result in soil disturbances of least one acre of total land area. MM HYD-1 below requires the preparation and implementation of a SWPPP to comply with the Construction General Permit requirements.

With implementation of MM HYD-1, the project would not violate any water quality standards or waste discharge requirements (WDRs) during the construction period, and impacts would be less than significant.

Mitigation Measure(s)

MM HYD-1: Prior to ground-disturbing activities, the project proponent shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The SWPPP shall include a site map that shows the construction site perimeter, existing and proposed manmade facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. Additionally, the SWPPP shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting any existing storm drain inlets and stabilizing disturbed areas;
• Implementing erosion controls;
• Properly managing construction materials; and
• Managing waste, aggressively controlling litter, and implementing sediment controls.

A copy of the approved SWPPP shall be submitted to the Kings County Community Development Agency.

**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated*.

**Impact #3.4.10b – Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

Water used during the anticipated 10 months of construction is estimated at approximately 100,000 gallons/day for 25 days and 1,000 gallons/day for 125 days, for a total of eight AF. Operation water usage is estimated at 1,000 gallons a day, or about 1.1 AF annually. Water would come from the site’s existing onsite private well system. Typical water usage for crop irrigation on the project site is approximately 1.3 million gallons, four AFY (De Jong, 2019). Therefore, once operational, the project would generate a significant decrease in water consumption needed for continued crop cultivation on the project site.

SB 610 was enacted to assist water suppliers, cities and counties in integrating water and land use planning. The adopted Guidelines (California Department of Water Resources, 2003) outlines a project that would be subject to the preparation of a Water Supply Assessment under the legislation. As noted in Footnote (5) the threshold is for a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area. The proposed biogas facility and approximately 37 miles of underground pipeline does not exceed this threshold, and therefore a Water Supply Assessment is not required.

The Tulare Lake Subasin underlies the project site and it is estimated that 17 million acre-feet of groundwater is found within this subbasin to a depth of 300 feet below ground surface (Department of Water Resources, 2003). This subbasin as identified as being critically overdrafted and subject to Sustainable Groundwater Management Act (SGMA) requirements and the newly formed Groundwater Sustainability Agencies. SGMA consists of three legislative bills and the legislation provides a framework for a long-term sustainable groundwater management across California. Local stakeholders have until 2020 to develop, prepare, and begin to implement the plan. GSAs will then have the responsibility to achieve groundwater sustainability. However, at this time, no additional requirements or implementation measures are applicable since a GSP has not been adopted within the subbasin.
Project construction would require 0.000016 percent of the total available groundwater within the subbasin and operational needs per year would require 0.0011 percent of available water. Given that these percentages of the overall available groundwater in the subbasin needed for the project’s construction and operations are nominal, the project’s construction and operations would not 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. Impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.10c(i) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation onsite or offsite?**

The project site is relatively flat and project grading would be minimal and consist of mostly grubbing the site to remove vegetation. The topography of the site would not appreciably change because of grading activities. The site does not contain any blue-line water features, including streams or rivers. The project would not develop significant areas of impervious surfaces that would significantly reduce the rate of percolation at the site or concentrate and accelerate surface runoff in comparison to the baseline condition. Like the existing site, stormwater would generally percolate to ground.

As noted previously, the gathering lines will cross several existing irrigation drainages and/or the Cross Creek canal. As proposed, the pipeline will be installed using either a jack and bore method under the drainages or an open cut method to traverse the drainages. If the jack and bore method is used, there would be no disturbance of the drainage bed and bank, and therefore impacts would be considered less than significant. If the open cut method is used, the project will comply with measures as required by MM BIO-9 and obtain the necessary permits prior to commencement of gathering pipeline construction. Implementation of MM BIO-9 would reduce impacts including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite to less than significant.

**Mitigation Measure(s)**

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*

Impact #3.4.10c(ii) – Would the project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

See response #3.4.10c(i), above. The project site is not located within a 100-year floodplain and does not include the development of residences (Figure 3.4.9-1). The project site is within an area of minimal flood hazard as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0375C (Federal Emergency Management Agency, 2009). There are no development restrictions associated since these are areas determined to be outside the 0.2 percent annual chance floodplain.

The easterly portions of the pipeline route are located within 100-year floodplain (1% annual chance of flood hazard zone). However, the pipeline will be placed underground and would not impede or affect floodwaters. The Project is not anticipated to substantially alter the drainage pattern of the area, and there are no streams or rivers in the project area. With implementation of MM HYD-1, impacts would be less than significant.

*Mitigation Measure(s)*

Implementation of MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*

Impact #3.4.10c(iii) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Please see response #3.4.10a above. Therefore, the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. With implementation of MM HYD-1, impacts would be less than significant.

*Mitigation Measure(s)*

Implementation of MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*
Impact #3.4.10c(iv) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?

See response #3.4.10c(i), above. The Project is not anticipated to substantially alter the drainage pattern of the area. With implementation of MM HYD-1, impacts would be less than significant.

**Mitigation Measure(s)**

Implementation of MM HYD-1.

**Level of Significance**

Impacts would be less than significant with mitigation incorporated.

Impact #3.4.10d – Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project site is not located near the ocean or a steep topographic feature (i.e., mountain, hill, bluff, etc.). Therefore, there is no potential for the site to be inundated by tsunami or mudflow. Additionally, there is no body of water within the vicinity of the project site. There is no potential for inundation of the project site by seiche.1

Therefore, the project would not contribute to inundation by seiche, tsunami, or mudflow. There would be no impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be no impact.

Impact #3.4.10e – Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Please see response #3.4.10(b) above. At this time, a GSP has not been prepared for the Tulare Lake Subbasin so no additional requirements or implementation measures are applicable. There would be no impact.

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1 A seiche is a standing wave in an enclosed or partially enclosed body of water that is often generated due to a significant seismic event.
Mitigation Measure(s)

Implementation of MM HYD-1.

Level of Significance

There would be no impact.
Figure 3.4.10-1
FEMA
Discussion

Impact #3.4.11a – Would the project physically divide an established community?

The project is in a rural area with predominately cultivated fields, large dairies and other agriculturally related operations. The project proposed to construct and operate a biogas facility on a small portion of undeveloped land; gathering pipelines would be constructed within existing County road rights of way with approval of an encroachment permit, or on private property. The project does not include the construction of roads or any other physical barrier that would divide a community. The project would not result in any surrounding land use change; therefore, there would be no impact.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be no impact.

Impact #3.4.11b – Would the project conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project site and pipeline route have a General Plan land use designation of General Agriculture (AG20) and is zoned General Agriculture-20 district (AG20) The pipeline would be installed underground and would not restrict or inhibit continued agricultural activities. According to Section 407 of the Kings County Development Code, Land Use Regulations-Table 4-1 of the Kings County Development Code, biogas facilities are permitted within the AG-20 (General Agriculture-20) zone district with approval of a CUP. Therefore, with approval of a CUP, the facility and pipeline would be consistent with applicable land use...
policies and regulations and impacts would be less than significant. The proposed project would not conflict with an applicable land use plan, policy, or regulation of Kings County; therefore, there would be no impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact.*
3.4.12 - Mineral Resources

Would the project:

- 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?

- 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?

Discussion

Impact #3.4.12a – Would the project 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?

Neither the project site nor the surrounding area is designated as a Mineral Resources Zone by the State Mining and Geology Board (SMGB) of 2035 Kings County General Plan, nor is it currently being utilized for mineral extraction. The project is associated with existing agricultural purposes and the project design does not include mineral extraction. The project would not 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 and would therefore have no impact.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be no impact.

Impact #3.4.12b – Would the project 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?

The 2035 Kings County General Plan states that few commercial mining and mineral extraction activities occur in the County and currently, only limited excavation of soil, sand and some gravel is used for commercial purposes (Kings County, 2010). Additionally, the General Plan does not designate the site for mineral and petroleum resources activities. The project site and surrounding lands are zoned for agriculture uses. No mining occurs in the
project area or in the nearby vicinity and there are no anticipated mineral extraction activities to be conducted in the future as a result of the project. The project would not 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 and would therefore have no impact.

*Mitigation Measure(s)*

No mitigation is required.

*Level of Significance*

There would be *no impact.*
3.4.13 - Noise

Would the project result in:

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies? □ □ ☒ □

b. Generation of excessive groundborne vibration or groundborne noise levels? □ □ ☒ □

c. For a project located within the vicinity of a private airstrip or 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? □ □ □ ☒

Discussion

The following analysis is based on data obtained from the certified EIR prepared for the Pixley Biogas Anaerobic Digester Project (Tulare County, 2013). Although the Pixley project included a much larger biogas facility than what is currently being proposed, the equipment analyzed in the Pixley Biogas Noise Impact Assessment would be similar in nature, location within a structure, and overall noise generation characteristics.

It is anticipated that the following pieces of equipment would be used during construction activities:

- Mini excavator
- Scraper
- Excavator
- Self-propelled compactor
- Grader
- Water truck
- Mobile generator
- Service truck
- HDPE welding machine
- Air compressor
- Trencher

Impact #3.4.13a – Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?
Few sensitive land uses are present within the surrounding project area. Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. The nearest sensitive land uses include agricultural residences located approximately 3,015 feet (0.6 miles) north and 2,757 feet (0.5 mile) south of the project site. The project site is near established dairies and agriculturally related businesses and noise generated by these uses are considered baseline. The agricultural residences in the vicinity are most likely utilized by farmers and agricultural workers who are accustomed to agricultural-related noise generated by the existing dairy facilities and agricultural operations.

The proposed project includes the installation and operation of a biogas upgrading facility. The upgrading facility will consist of moisture removal, H₂S scrubbing, CO₂ stripping, and biogas compressors. Once constructed the facility would operate year-round and would continue to operate 24 hours a day, seven days a week. No full time, onsite staff will be at the facility and no visitors are permitted due to security restrictions. Noise generated by the proposed project would consist of employee traffic, delivery and service vehicles, and general facility operations. Operational activities associated with the project that would generate noise include maintenance vehicle circulation, delivery truck vehicle circulation, and the operation of certain mechanical equipment such as stationary pumps, motors, compressors, fans, heaters, and other equipment. All equipment with moving parts, except the effluent pump and the digester agitators, will be located inside an enclosed control room. Operation of pipelines would not result in any discernible noise.

Unmitigated Operational Noise Levels provided in Table 3.4.13-1 was calculated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) modeling program.

<table>
<thead>
<tr>
<th>Equipment Description</th>
<th>Noise Levels at home on agricultural use ~525 feet from site (dBA)</th>
<th>Noise Levels at home ~1,555 feet from site (dBA)</th>
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<tr>
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<tr>
<td>Combined Noise Levels</td>
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<td>57.1</td>
</tr>
</tbody>
</table>

Notes: *Reflects a 6 dBA drop in noise level for every doubling of the distance from the source.
Noise levels will be below threshold as noted in Table 3.4.13-1. Additionally, as the closest sensitive receptor is at least 2,700 feet from the site, noise levels during both construction and operation would be lower than shown.

The 2035 Kings County General Plan identifies that there are numerous active agricultural uses within the County protected by the County’s Right-to-Farm Ordinance, which recognizes that “…agricultural activities and operations, including but not limited to, equipment and animal noise are conducted on a 24-hour a day, seven days a week basis…” in agricultural areas of the County (Kings County, 2010). The General Plan concludes that normal and usual agricultural operation creating elevated sound levels are not normally considered a nuisance. However, the Noise Element of the General Plan focuses on two goals to control fixed-source noise issues. These goals are to prevent the introduction of new noise-producing uses in noise-sensitive areas, and to prevent encroachment of noise-sensitive uses upon existing noise-producing facilities. Table N-8 of the Noise Element provides non-transportation noise standards.

This generated noise is consistent with the County’s General Plan Noise Element, Noise Ordinance, and Right-to-Farm Ordinance. Operation of the facility would not generate noise levels above the existing levels in the project area as minimal equipment would be utilized and the project is within an area of similar and compatible agricultural uses.

There are no specific construction noise thresholds established by Kings County. However, the construction of the proposed project would be temporary and would generally occur between 7:00 a.m. to 6:00 p.m., five days a week for approximately four to five months. Additional hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. Construction of the proposed expansion will mostly consist of site preparation, site excavation, grading and equipment installation. No demolition or pile-driving will occur during the construction phase of the project.

Given the existing agricultural nature of surrounding facility operations, noise levels are not anticipated to increase beyond a perceptible level by sensitive receptors. Therefore, these increases in ambient noise are considered less than significant and consistent with applicable standards.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be less than significant.

**Impact #3.4.13b – Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?**
The proposed project is expected to create temporary groundborne vibration as a result of the construction activities (during site preparation and grading). According to the U.S. Department of Transportation, Federal Railroad Administration, vibration is sound radiated through the ground. The rumbling sound caused by the vibration is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB). The background vibration velocity level in residential areas is usually around 50 VdB. A list of typical vibration-generating equipment is shown in Table 3.4.13-2. However, the project does not propose to use this specific equipment. The table is meant to illustrate typical levels of vibration for various pieces of equipment.

### Table 3.4.13-2
**Different Levels of Ground-borne Vibration**

<table>
<thead>
<tr>
<th>Vibration Velocity Level</th>
<th>Equipment Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>104 VdB</td>
<td>Pile Driver (impact), typical</td>
</tr>
<tr>
<td>93 VdB</td>
<td>Pile Driver (sonic), typical</td>
</tr>
<tr>
<td>94 VdB</td>
<td>Vibratory roller</td>
</tr>
<tr>
<td>87 VdB</td>
<td>Large bulldozer</td>
</tr>
<tr>
<td>87 VdB</td>
<td>Caisson drilling</td>
</tr>
<tr>
<td>86 VdB</td>
<td>Loaded trucks</td>
</tr>
<tr>
<td>79 VdB</td>
<td>Jackhammer</td>
</tr>
<tr>
<td>58 VdB</td>
<td>Small bulldozer</td>
</tr>
</tbody>
</table>

Source: (Federal Transit Administration, 2006)
Note: 25 feet from the corresponding equipment.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximately dividing line between barely perceptible and distinctly perceptible levels for many people.

Typical outdoor sources of perceptible ground-borne vibration are construction equipment and traffic on rough roads. For example, if a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

Typically, groundborne vibration generated by construction activity attenuates rapidly with distance from the source of the vibration. Therefore, vibration issues are generally confined to distances of less than 500 feet (U.S. Department of Transportation, 2005). Several residences are located within the surrounding area of the proposed project site. Potential sources of temporary vibration during construction of the proposed project would be minimal and would include transportation of equipment to the site, and operation of equipment during construction of the biogas upgrading facility and gathering pipelines.

Construction activity would include various site preparation, grading, in fabrication, and site cleanup work. Construction would not involve the use of equipment that would cause high ground-borne vibration levels such as pile-driving or blasting. Once constructed, the proposed project would not have any components that would generate high vibration levels.
Thus, construction and operation of the proposed project would not result in any vibration and impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.13c** – For a project located within the vicinity of a private airstrip or 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?

The project site and underground pipeline route is not located within the Kings County Airport Land Use Compatibility Plan, nor within two miles of a public airport or public use airport (County of Kings, 1994). According to the Federal Aviation Administration website (Federal Aviation Administration, 2017), the nearest public airport is the Hanford Municipal Airport located approximately 5.2 miles northwest of the site. Therefore, the project would not expose people residing or working in the project area to excessive noise levels, and there would be no impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact*. 
3.4.14 - **Population and Housing**

Would the project:

a. Induce substantial unplanned 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)?

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

**Discussion**

Impact #3.4.14a – Would the project 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)?

Construction of the project is along existing roadways, private farmland and a small undeveloped portion of property. No demolition of existing structures is required. Construction will be of short duration, and existing local construction staff will be utilized to the extent possible.

During operation, the proposed biogas facility requires one-two permanent onsite staff. However, operations will be handled by staff from the nearby existing biogas facility. No increase in employees is required for the proposed expansion. The project would not induce substantial population growth in the area, either directly or indirectly and would therefore result in a less-than-significant impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant.*
Impact #3.4.14b – Would the project displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project would not displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

As discussed, operations and maintenance would be conducted by existing staff. The project will not require demolition of housing or encourage population growth. The proposed project would not displace substantial numbers of existing housing and would therefore result in no impact.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be no impact.
3.4.15 - Public Services

Would the project:

a. 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 to other performance objectives for any of the public services:

i. Fire protection? ☐ ☐ ☒ ☐

ii. Police protection? ☐ ☐ ☒ ☐

iii. Schools? ☐ ☐ ☐ ☒

iv. Parks? ☐ ☐ ☐ ☒

v. Other public facilities? ☐ ☐ ☐ ☒

Discussion

Impact #3.4.15a(i) – 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 to other performance objectives for any of the public services – fire protection?

Construction and operation of the proposed project would not be expected to result in an increase in demand of fire protection services leading to the construction of new or physically altered facilities. The Kings County Fire Department handles emergency and fire calls within the unincorporated County. According to the Fiscal Year 2016/2017 Final Budget, during the previous fiscal year (2015/2016), there were 4,784 calls for service, with 403 of those calls being fire-related (8.4 percent of all calls). This was an increase from the 4,663 calls for service received during the 2014/2015 fiscal year (County of Kings, 2016).
The proposed project is located within the unincorporated County and would likely receive service from either Station 2, located off of Excelsior Avenue just north of the city limits of Hanford, or Station 4 located east of the city limits of Hanford. The proposed construction of a biogas facility would be located adjacent to an agriculturally related business that is already served by the Kings County Fire Department.

The proposed use would construct new buildings in an area that would not directly impact the Kings County Fire Department’s ability to continue to provide a similar level of protection throughout its service area. New construction will be required to pay impact fees, which aid in the construction of new capital facilities and purchase of equipment for public safety departments. The proposed project would result in a less-than-significant impact related to an increase in fire protection services that would necessitate the alteration or construction of fire stations or other infrastructure to combat fire.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

Impact #3.4.15a(ii) – 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 to other performance objectives for any of the public services – police protection?

Construction and operation of the proposed project would not be expected to increase the demand for sheriff protection services leading to the construction of new or physically altered facilities. The Kings County Sheriff Department provides police protection in the unincorporated areas of Kings County and collaborates with other law enforcement agencies and the District Attorney’s office on crime prevention. The Sheriff headquarters is at 1400 West Lacey, in Hanford.

According to the Fiscal Year 2016/2017 Final Budget, during the previous fiscal year (2015/2016), the Communications Division of the Sheriff Department, which handles dispatch responsibilities for numerous agencies throughout the County, received total 59,028 calls for service, of which 31,448 (53.2 percent) were directed to the Sheriff’s Department deputies and officers. This was a slight increase from the 31,205 calls for service received during the 2014/2015 fiscal year (County of Kings, 2016).

The proposed project is located within the unincorporated County and would likely receive service from officers operating within the appropriate area. The proposed biogas facility would be located adjacent to an agriculturally related business that is already served by the Kings County Sheriff Department.
The proposed project would not result in a change to the provision of law enforcement protection that would require the County to add personnel, new facilities or alter existing facilities. The proposed project would result in a less-than-significant impact related to an increase in demand for law enforcement services that would necessitate the alteration or construction of new or expanded facilities to maintain adequate service levels.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

Impact #3.4.15a(iii) – 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 to other performance objectives for any of the public services – schools?

The proposed project would not significantly increase the number of residents in the County, since the project does not include residential units, nor does it employ a significant number of people necessitating housing construction. There are 46 schools and 15 school districts located throughout Kings County (Kings County Office of Education, 2019). These districts and schools vary in size and the number of students served countywide enrollment for the 2018 school year totaled 29,203 (Kidsdata.org, 2019). The proposed project lies within the Lakeside Union Elementary School District and the Hanford Joint Union High School District. The proposed construction of biogas facility and gathering pipeline route would not generate impacts to the school districts.

In Kings County, school fees are collected at the time of building permit issuance for any construction in order to ensure that a fair share contribution related to size and scale of the development pays towards education in the county. Since the proposed project would not increase the number of students attending public school, there would be no impact.

**Mitigation Measure(s)**

No mitigation would be required.

**Level of Significance**

There would be *no impact*.

Impact #3.4.15a(iv) – 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 to other performance objectives for any of the public services – parks?

The proposed project would not significantly increase the number of residents in the County, since the project does not include residential units, nor does it employ a significant number of people necessitating housing construction. According to the 2035 Kings County General Plan, Kings County presently owns and maintains three parks (Burris, Hickey, and Kingston) which are located in the north portions of the County and surrounded by agricultural areas. Burris Park is located south of Clinton Avenue between 6th and 7th Avenues. Hickey Park is located north of Flint Avenue at 17th Avenue. Kingston Park is located north of Douglas Avenue between 12th Avenue and 13th Avenue. Both Hickey Park and Kingston Park are primarily open space with grass and trees. Burris Park has more recreational amenities and a museum. Hickey and Kingston Parks are within about a five-minute drive from cities and communities located in the north half of the County and Burris Park is about a 15-minute drive from Hanford. The General Plan also identifies natural resources, such as the Kings River, as recreational centers within Kings County (Kings County, 2010).

As such, the proposed project would result in no impacts to these services and no mitigation would be required.

**Mitigation Measure(s)**

No mitigation would be required.

**Level of Significance**

There would be *no impact*.

**Impact #3.4.15a(v) – 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 to other performance objectives for any of the public services – Other Public Facilities?**

The proposed project would not significantly increase the number of residents in the County, since the project does not include residential units or create a large number of new jobs. Kings County provides a wide range of public services to the public besides those services previously mentioned, above. The County also provides animal control services, refuse pick-up, library facilities, and drainage management. These services are generally funded through the general fund, usage fees, fines and penalties or impact fee collection.

In Kings County, all jurisdictions collect planning and building fees as well as impact fees for new development, as necessary. Since the demand for other public facilities is driven by population, the proposed project would not increase the demand for that service. As such,
the proposed project would result in no impacts to these services and no mitigation would be required.

**MITIGATION MEASURE(S)**

No mitigation would be required.

**LEVEL OF SIGNIFICANCE**

There would be *no impact.*
3.4.16 - Recreation

Would the project:

a. 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?

b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Discussion

Impact #3.4.16a – 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?

See Impact #3.4.15a(ii) above.

The proposed project expansion and associated improvements would not impact park or recreational facilities within Kings County. The project will utilize existing staff to help operate the facility and therefore would result in no increase in residential population in the County. The proposed project would not 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. Therefore, there would be no impact.

Mitigation Measure(s)

No mitigation is required.

Level of Significance

There would be no impact.

Impact #3.4.16b – Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?
The proposed project does not include or require the construction or expansion of recreational facilities. As such, the proposed project would result in no impacts to these services and no mitigation would be required.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

There would be *no impact*. 
3.4.17 - TRANSPORTATION

Would the project:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities? □ □ ☒ □

b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? □ □ ☒ □

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? □ ☒ □ □

d. Result in inadequate emergency access? □ □ ☒ □

Discussion

Potential transportation and circulation impacts that may result from the proposed project primarily involves determining whether a net change would occur in traffic generated by personnel commuting to or from the project site and by truck trips related to the expansion of facility operations.

Site access is currently provided by a driveway on 7th Avenue. Semi-trucks are used for large deliveries and exports to and from the site and standard pick-up trucks are used by employees to travel to and from the site. The County’s network of interstate and State highways and local roads is relied upon to accommodate existing traffic demands. The roadways surrounding the project site include 7th Avenue and Jersey Avenue.

Impact #3.4.17a – Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?

The proposed project is located in a rural, sparsely populated area that does not have high traffic volume. As proposed, the project does not include the construction of new intersections, streets, highways and freeways, pedestrian and bicycle paths, or mass transit, nor would the project impact or degrade the existing transit infrastructure of the area.
Projected Trip Generation

Construction

Construction of the proposed project is temporary and would take approximately nine-10 months to complete and would typically be scheduled between 7:00 a.m. and 6:00 p.m., Monday through Friday. The workforce required for construction is expected to be drawn from local or regional labor pools. It is assumed that the average construction workforce would be between approximately 15 to 20 persons.

For this analysis, we have applied a conservative occupancy rate of 2.0 to trips generated by construction personnel. Therefore, we have assumed a maximum of 10 trips are generated in both the a.m. and p.m. periods due to construction personnel. However, as is typical with construction activities, trips are anticipated to be distributed over longer a.m. and p.m. periods and will not necessarily coincide with the traditional commuting peak periods of 7:00 a.m. to 9:00 a.m. or 4:00 p.m. to 6:00 p.m. It is anticipated the trips will be spread over four-hour periods, from 5:00 a.m. to 9:00 a.m. and 2:00 p.m. to 6:00 p.m.

It is also anticipated there will be parts, materials and equipment delivered to the job site throughout construction, made by large heavy-haul transport trucks during the workdays. There is assumed to be one to two trucks per day (10 round trips) during the peak construction period.

Operation

Once operational, there will be no permanent staff at the facility. Routine maintenance and operations activities will be conducted by one-two staff, for a total of two daily round trips. Staff are anticipated to work a regular five-day a week schedule.

Diesel trucks will be delivering sodium hydroxide from Fresno or Bakersfield. The deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

Based on the above analysis, it is anticipated that temporary construction traffic generated of 20 trips – 10 construction staff and 10 truck deliveries – the project does not generate significant traffic during any peak hour during construction. Once operational, the project would generate two daily trips, with an additional six-monthly delivery trips.

The Circulation Element of the 2035 Kings County General Plan designates a peak-hour level of service (LOS) of “D” as the threshold for acceptable traffic operations for the Kings County road network (Kings County, 2010). The project site is currently accessed via 7th Avenue. Construction and operational traffic would use 7th Avenue, a two-lane road, and the majority of traffic to the site would use SR 198 and SR 43. According to the Circulation Element Figure C6, SR 43 has an ADT of 10,800 and SR 198 has an ADT of 19,800.
Table C-4 of the Circulation Element does not have a set designation for 7th Avenue and it is considered a local road with no official thresholds or LOS designations. SR 43 where it intersects with SR 198 had a LOS of C in 2006 and is expected to be LOS D by 2035. However, the minimal increase of 20 daily trips anticipated by the proposed project during construction, or the two daily employee trips and up to six monthly delivery trips would not interrupt the flow of traffic or degrade the existing LOS condition.

The proposed project would 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. The proposed project is consistent with the Kings County General Plan Circulation Element (County of Kings, 2010) and Kings County Regional Transportation Plan (LSC, 2015); therefore, the proposed project would have a less-than-significant impact.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.17b – Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?**

As discussed in Impact #3.4.17a, the proposed expansion project would not result in degrading the current LOS condition. There would be a slight increase in ADT during short-term construction and a minimal increase in ADT for operations activities. This increase is considered nominal as it would not result in a lower LOS for the surrounding roadway system. The proposed project would not conflict with an applicable congestion management program or other standards established by the county congestion management agency for designated roads or highways. Therefore, the impact would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impacts would be *less than significant*.

**Impact #3.4.17c – Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**
The project would utilize existing roadways and no new roads are being proposed as part of the project design. The project design does include two new private drive approaches on 7th Avenue to provide access to and from the project site. The drive approaches would be designed according to all applicable County Improvement Standards. Therefore, the project would not substantially increase hazards due to a design feature or incompatible uses and would have a less-than-significant impact.

The pipeline will be buried approximately four to eight feet below grade, which is deeper than what would be turned over during typical agricultural tilling or disking activities. However, if the pipeline encroaches on the public ROW, implementation of TRANS-1 and TRANS-2 would greatly reduce the likelihood of pipeline rupture, thus reducing this impact.

**MITIGATION MEASURE(S)**

**MM TRANS-1**: A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe.

**MM TRANS-2**: An Operations and Maintenance Program will be developed and followed to inspect and pressure-test the pipeline. Monitoring will occur during construction and on an annual basis during project operations.

**LEVEL OF SIGNIFICANCE**

Impacts would be less than significant with mitigation incorporated.

**Impact #3.4.17d – Would the project result in inadequate emergency access?**

Construction and operation of the proposed project would not interfere with emergency access for emergency vehicles or nearby uses as all activities would be conducted on the site and would not interfere with the adjacent street traffic. The project design includes new drive approaches along 7th Avenue, which would allow for improved access to the site. No facilities are proposed as part of the proposed project that would change emergency access to the site or that would affect access to nearby uses. The project would not result in inadequate emergency access and would therefore result in no impact.

**MITIGATION MEASURE(S)**

No mitigation is required.

**LEVEL OF SIGNIFICANCE**

There would be no impact.
1.1.2 - Tribal Cultural Resources

Would the project:

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or ☐ ☒ ☐ ☐

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. ☐ ☒ ☐ ☐

Discussion

Impact #3.4.18a(i) – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
Please see response to Impact #3.4.5a above. The Lead Agency has consulted with the Santa Rosa Rancheria tribe regarding potential project impacts to tribal cultural resources. With implementation of Mitigation Measures MM CR-1 and MM CR-2, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.

**Mitigation Measure(s)**


**Level of Significance**

Impact would be *less than significant with mitigation incorporated*.

**Impact #3.4.18a(ii) – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Please see response to Impact #3.4.5a above. With implementation of Mitigation Measures MM CR-1 and MM CR-2, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

**Mitigation Measure(s)**


**Level of Significance**

Impact would be *less than significant with mitigation incorporated*. 
3.4.18 - Utilities and Service Systems

Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities of existing facilities, the construction or relocation of which could cause significant environmental effects?

   - Potentially Significant Impact
   - Less than Significant Impact with Mitigation Incorporated
   - Less-than-Significant Impact
   - No Impact

   X

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

   - Potentially Significant Impact
   - Less than Significant Impact with Mitigation Incorporated
   - Less-than-Significant Impact
   - No Impact

   X

c. Result in a determination by the wastewater treatment provider that 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?

   - Potentially Significant Impact
   - Less than Significant Impact with Mitigation Incorporated
   - Less-than-Significant Impact
   - No Impact

   X

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

   - Potentially Significant Impact
   - Less than Significant Impact with Mitigation Incorporated
   - Less-than-Significant Impact
   - No Impact

   X

e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

   - Potentially Significant Impact
   - Less than Significant Impact with Mitigation Incorporated
   - Less-than-Significant Impact
   - No Impact

   X

Discussion

Impact #3.4.19a – Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities of existing facilities, the construction or relocation of which could cause significant environmental effects?

The project will not cause significant environmental effects impacting or affecting applicable wastewater treatment requirements during construction or operations activities. See also Impact #3.4.10 for a discussion of wastewater disposal and compliance with RWQCB requirements. The project would not necessitate the RWQCB to expand their facilities.
because of the project. The project would not exceed wastewater treatment requirements of the applicable RWQCB.

The project will require up to 20 employees during temporary construction-related activities, and one-two maintenance employees will work at the site during day-to-day operations. A bathroom facility with a septic system will be constructed onsite. The septic system will be designed to meet County septic system requirements.

As shown in Table 3.4.19-1, water usage for dust control during construction-related activities will be minimal due to the small footprint and short duration of construction-related activities of the proposed project. Water used in the operational process will be maintained onsite and minimized using best management practices. All applicable local, State, and federal requirements and best management practices will be incorporated into construction-related activities of the project.

<table>
<thead>
<tr>
<th>Table 3.4.18-1</th>
<th>Proposed Water Demand for Biogas Gather Facility Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Water</td>
<td>Period of Performance</td>
</tr>
<tr>
<td>Demand</td>
<td>(gallons)</td>
</tr>
<tr>
<td>Construction</td>
<td>2.65 million</td>
</tr>
<tr>
<td>Operation</td>
<td>365,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Maas Energy Works  
AFY = acre-feet per year

During construction, temporary, portable toilet facilities will be provided for construction-workers and disposed of at an approved site in compliance with Kings County Environmental Health Department policies. The applicant will contract with a local service provider to dispose of the wastewater at an approved wastewater treatment plant. It is estimated that there would be one portable toilet with a 50-gallon tank at the project site during construction-related activities.

Impacts would be considered less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impact would be *less than significant*

**Impact #3.4.19b – Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**
The project will obtain its water from an existing onsite private well system. Typical water usage for crop irrigation on the project site is approximately 1.3 million gallons, four AFY (De Jong, 2019). Therefore, once operational, the project would generate a significant decrease in water consumption needed for continued crop cultivation on the project site.

As noted in Impact #3.4.10b, project construction would require 0.000016 percent of the total available groundwater within the subbasin and operational needs per year would require 0.0011 percent of available water. Given that these percentages of the overall available groundwater in the subbasin needed for the project's construction and operations are nominal, the project's construction and operations would not 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. Impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impact would be *less than significant*

**Impact #3.4.18c – Would the project result in a determination by the wastewater treatment provider that 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?**

The increase in onsite stormwater runoff from the proposed project will be minimal and is the result of a small increase in impervious surfaces from the equipment room, and the paved driveway. The remainder of the site will be unpaved and therefore allows for water to percolate back into the ground.

The site engineering and design plans for the proposed project would be required to implement BMPs, comply with requirements of the Kings County Code of Building Regulations, as well as with Kings County Development Standards and compliance with the NPDES General Permit. Implementation of MM HYD-1 and MM HAZ-1 would reduce impacts to less than significant.

**Mitigation Measure(s)**

Implement MM HYD-1 and MM HAZ-1.

**Level of Significance**

Impact would be *less than significant with mitigation incorporated.*
Impact #3.4.18d – Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

As outlined in the Project Description and Impact #3.4.10, the project would utilize an estimated three AF of water during construction and 2.8 acre-feet per year from the proposed project via an onsite well system. Bottled water for employees will be brought to the project site as well. Project construction would require 0.000016 percent of the total available groundwater within the Tulare Lake Subbasin and operational needs per year would require 0.0011 percent of available water. Impacts would be less than significant.

Water will be obtained from persons with existing entitlements to water, and no new entitlements will be required. No surface water entitlements are needed to service the project as the existing groundwater resources are available and adequate to service the site. Although not anticipated, any wells that would be repaired, replaced or added would be required to be permitted through the health department prior to installation in order to ensure compliance with local and State regulations. Impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impact would be less than significant

Impact #3.4.18e – Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

The proposed project would generate solid waste during construction and operation, thus requiring the consideration of a waste reduction and recycling measure. The 1989 California Integrated Waste Management Act (AB 939) requires Kings County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. The project would comply with the 1989 California Integrated Waste Management Act, the 1991 California Solid Waste Reuse and Recycling Access of 1991, as amended. As well as the rules of the contracted waste franchise, which is the Kings Waste and Recycling Authority. The project is also subject to Chapter 13 of the Kings County Municipal Code that regulates all solid waste activities from disposal, sorting and recycling of materials.

According to CalRecycle, the implementation of the local requirements has led to Kings County meeting their required diversion and disposal targets. Therefore, the implementation and compliance with the local regulations would lead to a less-than-significant impact for the project (California Department of Resources Recycling and Recovery, 2017). The proposed project would be required to comply with all federal, State,
and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the proposed project would result in less-than-significant impacts.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impact would be *less than significant*
**3.4.19 - WILDFIRE**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation Incorporated</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Substantially impair an adopted emergency response plan or emergency evacuation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b.</td>
<td>Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c.</td>
<td>Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d.</td>
<td>Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

**Discussion**

Impact #3.4.20a – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

See response #3.4.9f. The project is not located in or near State Responsibility Areas or lands classified as very high fire hazard severity zone. Therefore, there would be no impact.

**Mitigation Measure(s)**

No mitigation is required.
LEVEL OF SIGNIFICANCE

There would be *no impact*.

**Impact #3.4.20b** – Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The project area is flat, with little topography. The surrounding area is rural, and predominantly under agricultural cultivation or developed with agri-businesses. It is not located in or near State Responsibility Areas or lands classified as very high fire zones. Therefore, there would be *no impact*.

**MITIGATION MEASURE(S)**

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

**Impact #3.4.20c** – Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The project does not require the installation or maintenance of infrastructure that would result in temporary or permanent impacts to the environment. The 37 miles of gathering pipeline will be installed four to eight feet below ground and not pose a potential threat. The gathering pipeline system is considered as a Class 1 pipeline (due to the low population density within which it traverses) and is classified as non-jurisdictional gathering per the PHMSA regulations.

The biomethane captured at the digester will be transported via low-pressure gas pipelines from the digester to the biogas upgrading facility’s onsite dewatering equipment and thence to the main gas upgrading equipment. All portions of the project will comply with Pipeline and Hazardous Materials Safety Administration (PHMSA) Guidelines, 49 CFR Part 192, and with the CPUC’s Safety Enforcement Division (SED) purview, CPUC General Order 112-F. Therefore, there impacts would be less than significant.

**MITIGATION MEASURE(S)**

No mitigation is required.

**LEVEL OF SIGNIFICANCE**

Impact would be *less than significant*. 
Impact #3.4.20d – Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As noted in Impact #3.4.20b, the project site and surrounding area is relatively flat with no slopes or steep inclines that would cause flooding or landslides, slope instability of drainage changes. The upgrading facility is located on flat land adjacent to an existing agribusiness operation. The gathering pipeline route will be located on either existing ROW or private land that is flat. The pipe will be underground and therefore not create any permanent change in topography or drainage. Impacts would be less than significant.

**Mitigation Measure(s)**

No mitigation is required.

**Level of Significance**

Impact would be *less than significant.*
**Discussion**

**Impact #3.4.21a - Does the project have 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 a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

As evaluated in this IS/MND, the proposed project would not 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. Mitigation measures have been included to lessen the significance of
potential impacts. Similar mitigation measures would be expected of other projects in the surrounding area, most of which share similar cultural paleontological and biological resources. Consequently, the incremental effects of the proposed project, after mitigation, would not contribute to an adverse cumulative impact on these resources. Therefore, the project would have a less-than-significant impact with mitigation incorporated.

**MITIGATION MEASURE(S)**


**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated*.

**Impact #3.4.21b - Does the project have impacts that are individually limited, but cumulatively considerable?** (“Cumulatively considerable” means that the incremental effects of a 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.)

As described in the impact analyses in Sections 3.4.1 through 3.4.18 of this IS/MND, any potentially significant impacts of the proposed project would be reduced to a less-than-significant level following incorporation of the mitigation measures listed in Appendix D – Mitigation Monitoring and Reporting Program. All planned projects in the vicinity of the proposed project would be subject to review in separate environmental documents and required to conform to the 2035 Kings County General Plan, the Kings County Development Code, mitigate for project-specific impacts, and provide appropriate engineering to ensure the project meets all applicable federal, State and local regulations and codes. As currently designed, and with compliance of the recommended mitigation measures, the proposed project would not contribute to a cumulative impact. Thus, the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

**MITIGATION MEASURE(S)**


**LEVEL OF SIGNIFICANCE**

Impacts would be *less than significant with mitigation incorporated*.

**Impact #3.4.21c - Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?**

The ways in which people can be subject to substantial adverse effects from projects include: potential exposure to significant levels of local air pollutants; potential exposure to seismic
and flooding hazards; potential exposure to contamination from hazardous materials; potential exposure to traffic hazards; and potential exposure to excessive noise levels. The risks from these potential hazards would be avoided or reduced to less than significant levels through compliance with existing laws, regulations, or requirements. All of the project’s impacts, both direct and indirect, that are attributable to the project were identified and mitigated to a less than significant level. As shown in the Mitigation Monitoring and Reporting Program, the project proponent has agreed to implement mitigation substantially reducing or eliminating impacts of the project.

Therefore, the proposed project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed project are identified as having no impact, less-than-significant impact, or less than significant impact with mitigation incorporated.

**Mitigation Measure(s)**


**Level of Significance**

Impacts would be *less than significant with mitigation incorporated.*
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4.2 - QK

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- Robert Parr, MS, RPA - Cultural Resources
- Dave Dayton, Senior Biologist - Biological Resources

4.3 - Air Quality Analysis

Insight Environmental/Trinity Consultants
SECTION 5 - BIBLIOGRAPHY


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APPENDIX A
AIR QUALITY IMPACT ANALYSIS
AIR QUALITY IMPACT ANALYSIS

Hanford-Lakeside Dairy Digester Cluster Project
Kings County, California

Prepared For:

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June 2018

Project 180505.0089
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Attachment C: California Air Resources Board 2015 and 2020 Estimated Emissions Inventories
Attachment D: Health Risk Prioritization Score
1. EXECUTIVE SUMMARY

Insight Environmental Consultants, Inc., a Trinity Consultants Company, has completed an Air Quality Impact Analysis (AQIA) for the construction of the Hanford-Lakeside Dairy Digester Cluster Project (Project). This Project will be located near 15808 7th Avenue, Hanford, California and will include a dairy biogas collection and biomethane injection project. The biogas collected by this Project will come from individual dairy digesters located at nearby dairy farms. A pipeline gathering system will extend outward into the surrounding locale to gather and transport gas collected from various locations to the Project site for processing.

The proposed Project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and suspended particulate matter (PM₁₀ and PM₂.₅). Project operations would generate air pollutant emissions from mobile sources (automobile activity from employees) and area sources (incidental activities related to facility maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2017), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a less than significant air quality impact on the San Joaquin Valley Air Basin. Table 4-4 presents the Project's operations emissions and provide substantial evidence to support a less than significant air quality impact on the San Joaquin Valley Air Basin. The majority of GHG emissions increases associated with this project result indirectly from electrical usage delivered from a supplier subject to the Cap-and-Trade regulation. Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a less than significant individual and cumulative impact on global climate change.

Cumulative impacts were also evaluated. Records search of the City of Hanford Planning Division's records and development files and Kings County Community Development Agency's GIS Viewer and records identified no other projects within a one-mile radius of the proposed Project. Evaluation of the cumulative emissions supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's increment does not exceed significance thresholds. Additionally, compliance with the SJVAPCD's Air Quality Attainment Plan (AQAP) is presumably required by all projects' located within the SJVAPCD's jurisdiction. Because projects that would have been included in the cumulative analysis presumably comply with the requirements of one or both of these plans, the Project's incremental contribution to a cumulative effect is considered less than cumulatively considerable (CEQA Guidelines Section 15064(h)(3); SJVAPCD 2015).
2. INTRODUCTION

2.1. PURPOSE

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2016).

2.2. GENERAL PROJECT DESCRIPTION

The Hanford-Lakeside Dairy Digester Cluster (Project) will include a dairy biogas collection and biomethane injection project. The biogas collected by this Project will come from individual dairy digesters located at nearby dairy farms. A pipeline gathering system will extend outward into the surrounding locale to gather and transport gas collected from various locations to the Project site for processing. The Project would be located in eastern Kings County, CA, near 15808 7th Ave, Hanford CA, 93230. Figure 2-1 depicts the regional location and Figure 2-2 depicts a localized Project location. The preliminary project design showing the basic layout of the facility is shown in Figure 2-3.

Figure 2-1 - Regional Location
Figure 2-2 - Project Location

Source: MAAS Energy Works 2018

Figure 2-3 - Preliminary Project Design
Figure 2-4 depicts the Project site’s topography based on United States Geological Survey’s (USGS) National Map (USGS 2015). The Project site is located at an elevation of approximately 230 feet above mean sea level, is surrounded by agricultural land, and is within the Kings County, CA boundary.
Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O$_3$), CO, NO$_2$, SO$_2$, PM$_{10}$ and PM$_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H$_2$S), vinyl chloride (chloroethene) and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kings County are presented in Section 3.1 below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB) and the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are "unclassified," in "attainment", or in "non-attainment" for the NAAQS and CAAQS relying on statewide air quality monitoring data.

### 3.1. AIR QUALITY STANDARDS

The Project area is located in the SJVAB in Kings County and which is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. Table 3-1 provides the NAAQS and CAAQS.
### Table 3-1 - Federal & California Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>NAAQS</th>
<th>CAAQS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>O₃</strong></td>
<td>8-Hour</td>
<td>0.070 ppm (137 µg/m³)</td>
<td>0.070 ppm (137 µg/m³)</td>
</tr>
<tr>
<td></td>
<td>1-Hour</td>
<td>0.09 ppm (180 µg/m³)</td>
<td></td>
</tr>
<tr>
<td><strong>CO</strong></td>
<td>8-Hour</td>
<td>9 ppm (10 mg/m³)</td>
<td>9 ppm (10 mg/m³)</td>
</tr>
<tr>
<td></td>
<td>1-Hour</td>
<td>35 ppm (40 mg/m³)</td>
<td>20 ppm (23 mg/m³)</td>
</tr>
<tr>
<td><strong>NO₂</strong></td>
<td>Annual Average</td>
<td>53 ppb (100 µg/m³)</td>
<td>0.030 ppm (57 µg/m³)</td>
</tr>
<tr>
<td></td>
<td>1-Hour</td>
<td>100 ppb (188.68 µg/m³)</td>
<td>0.18 ppm (339 µg/m³)</td>
</tr>
<tr>
<td><strong>SO₂</strong></td>
<td>3-Hour</td>
<td>0.5 ppm (1,300 µg/m³)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24 Hour</td>
<td>0.14 ppm (365 µg/m³)</td>
<td>0.04 ppm (105 µg/m³)</td>
</tr>
<tr>
<td></td>
<td>1-Hour</td>
<td>75 ppb (196 µg/m³)</td>
<td>0.25 ppm (665 µg/m³)</td>
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<tr>
<td><strong>Particulate Matter (PM₁₀)</strong></td>
<td>Annual Arithmetic Mean</td>
<td>20 µg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-Hour</td>
<td>150 µg/m³</td>
<td>50 µg/m³</td>
</tr>
<tr>
<td><strong>Fine Particulate Matter (PM₂.₅)</strong></td>
<td>Annual Arithmetic Mean</td>
<td>12 µg/m³</td>
<td>12 µg/m³</td>
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<tr>
<td></td>
<td>24-Hour</td>
<td>35 µg/m³</td>
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</tr>
<tr>
<td><strong>Sulfates</strong></td>
<td>24-Hour</td>
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<td>25 µg/m³</td>
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<tr>
<td><strong>Pb</strong>[^4]</td>
<td>Rolling Three-Month Average</td>
<td>0.15 µg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 Day Average</td>
<td></td>
<td>1.5 µg/m³</td>
</tr>
<tr>
<td><strong>H₂S</strong></td>
<td>1-Hour</td>
<td>0.03 ppm (42 µg/m³)</td>
<td></td>
</tr>
<tr>
<td><strong>Visibility Reducing particles</strong></td>
<td>8 Hour (1000 to 1800 PST)</td>
<td>b</td>
<td></td>
</tr>
</tbody>
</table>

ppm = parts per million  
ppb = parts per billion  
mg/m³ = milligrams per cubic meter  
µg/m³ = micrograms per cubic meter

Source: CARB 2016

[^a]: On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[^b]: In 1989, the CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Kings County portion of the SJVAB has been classified as nonattainment/extreme, nonattainment/severe, nonattainment, attainment/unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the SJVAB’s designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.
Table 3-2 - SJVAB Attainment Status

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>NAAQS(^a)</th>
<th>CAAQS(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O(_3), 1-hour</td>
<td>No Federal Standard(^f)</td>
<td>Nonattainment/Severe</td>
</tr>
<tr>
<td>O(_3), 8-hour</td>
<td>Nonattainment/Extreme(^e)</td>
<td>Nonattainment</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>Attainment(^c)</td>
<td>Nonattainment</td>
</tr>
<tr>
<td>PM(_{2.5})</td>
<td>Nonattainment(^d)</td>
<td>Nonattainment</td>
</tr>
<tr>
<td>CO</td>
<td>Attainment/Unclassified</td>
<td>Attainment/Unclassified</td>
</tr>
<tr>
<td>NO(_2)</td>
<td>Attainment/Unclassified</td>
<td>Attainment</td>
</tr>
<tr>
<td>SO(_2)</td>
<td>Attainment/Unclassified</td>
<td>Attainment</td>
</tr>
<tr>
<td>Pb (Particulate)</td>
<td>No Designation/Classification</td>
<td>Attainment</td>
</tr>
<tr>
<td>H(_2)S</td>
<td>No Federal Standard</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Sulfates</td>
<td>No Federal Standard</td>
<td>Attainment</td>
</tr>
<tr>
<td>Visibility Reducing particulates</td>
<td>No Federal Standard</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Vinyl Chloride</td>
<td>No Federal Standard</td>
<td>Attainment</td>
</tr>
</tbody>
</table>

Source: SJVAPCD 2018a

Note:
- a See 40 CFR Part 81
- b See CCR Title 17 Sections 60200-60210
- c 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.
- d The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).
- e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O\(_3\) standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
- f Effective June 15, 2005, the EPA revoked the federal 1-hour O\(_3\) standard, including associated designations and classifications. EPA had previously classified the SJV as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O\(_3\) nonattainment areas continue to apply to the SJVAB.

The SJVAPCD along with the CARB operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. The monitoring stations in the San Joaquin Valley are depicted in Figure 3-1.
3.2. EXISTING AIR QUALITY

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. Table 3-3 provides the background concentrations for O₃, particulate matter of 10 microns (PM₁₀), particulate matter of less than 2.5 microns (PM₂.₅), CO, NO₂, SO₂, and Pb as of June 2015. Information is provided for the Hanford-S Irwin Street, Visalia – N Church Street, and Fresno – Garland monitoring stations for 2014 through 2016. No data is available for H₂S, Vinyl Chloride, or other toxic air contaminants in the Kings County or surrounding counties.
### Table 3-3 - Existing Air Quality Monitoring Data in Project Area

<table>
<thead>
<tr>
<th>Pollutant and Monitoring Station Location</th>
<th>Maximum Concentration (ppm)</th>
<th>Days Exceeding Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>O₃ - 1-hour CAAQS (0.09 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>0.108</td>
<td>5</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>0.095</td>
<td>1</td>
</tr>
<tr>
<td><strong>O₃ - 8-hour CAAQS (0.07 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>0.095</td>
<td>27</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>0.080</td>
<td>40</td>
</tr>
<tr>
<td><strong>O₃ - 8-hour NAAQS (0.070 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>0.094</td>
<td>39</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>0.079</td>
<td>25</td>
</tr>
<tr>
<td><strong>PM₁₀ - 24-hour CAAQS (50 µg/m³)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>125.7</td>
<td>22</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>104.2</td>
<td>17</td>
</tr>
<tr>
<td><strong>PM₁₀ - 24-hour NAAQS (150 µg/m³)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>131.3</td>
<td>0</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>102.4</td>
<td>0</td>
</tr>
<tr>
<td><strong>PM₂.₅ - 24-hour NAAQS (35 µg/m³)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>96.7</td>
<td>30</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>81.3</td>
<td>12</td>
</tr>
<tr>
<td><strong>CO - 8-Hour CAAQS &amp; NAAQS (9.0 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data collected</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td><strong>NO₂ - 1-Hour CAAQS (0.18 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>0.050</td>
<td>0</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>0.064</td>
<td>0</td>
</tr>
<tr>
<td><strong>NO₂ - 1-Hour NAAQS (0.10 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanford – S Irwin Street</td>
<td>0.050</td>
<td>0</td>
</tr>
<tr>
<td>Visalia – N Church Street</td>
<td>0.065</td>
<td>0</td>
</tr>
<tr>
<td><strong>SO₂ - 24-hour Concentration - CAAQS (0.04 ppm) &amp; NAAQS (0.14 ppm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data collected</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td><strong>Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m³)</strong></td>
<td>12.0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: CARB 2018a  
Notes: ppm= parts per million  
* There was no data available to determine the value.

The following is a description of criteria air pollutants, typical sources, and health effects and the recently documented pollutant levels in the project vicinity.

#### 3.2.1. Ozone (O₃)

The most severe air quality problem in the San Joaquin Valley is high concentrations of O₃. High levels of O₃ cause eye irritation and can impair respiratory functions. High levels of O₃ can also affect plants and materials. Grapes, lettuce, spinach, and many types of garden flowers and shrubs are particularly vulnerable to O₃ damage. O₃ is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions...
involving hydrocarbons and nitrogen oxides (NOx). 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 Table 3-3 shows that the Hanford area exceeded the 1-hour average ambient O3 CAAQS and the 8-hour average ambient O3 NAAQS and CAAQS for the 2014 through 2016 period.

3.2.2. Suspended Particulate Matter (PM10 and PM2.5)

Both State and Federal particulate standards now apply to particulates under 10 microns (PM10) rather than to total suspended particulate, 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 NAAQS for PM2.5. The project area is classified as attainment for PM10 and non-attainment for PM2.5 for NAAQS.

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. The largest sources of PM10 and PM2.5 in Kings County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM10 and PM2.5 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. 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.

Table 3-3 shows that PM10 levels regularly exceeded the CAAQS but not the NAAQS at two monitoring stations over the three-year period of 2014 through 2016. Table 3-3 shows that PM2.5 NAAQS were exceeded from 2014 through 2016. Similar levels can be expected to occur in the vicinity of the project site.

3.2.3. 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 San Joaquin Valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO 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, thereby aggravating cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

Table 3-3 reports no CO levels were recorded at any California monitoring stations during the three-year period from 2014 through 2016; historically Hanford data for CO has been below the CAAQS and NAAQS.
3.2.4. Nitrogen Dioxide (NO₂) and Hydrocarbons

Kings County has been designated as an attainment area for the NAAQS for 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 NOx emissions, most of which is emitted as NO₂. 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. 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 NO₂ and O₃. NO₂, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NOₓ 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.

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. 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.

Table 3-3 shows that the Federal or State NO₂ standards have not been exceeded at the Hanford or the Visalia area-monitoring stations over the three-year period of 2014 through 2016. Hydrocarbons are not currently monitored.

3.2.5. Sulfur Dioxide (SO₂)

Kings County has been designated as an attainment area for the NAAQS for SO₂. 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.

At high concentrations, SO₂ irritates the upper respiratory tract. At lower concentrations, when respired in combination with particulates, SO₂ can result in greater harm by injuring lung tissues. Sulfur oxides (SOₓ), 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. SOₓ can also react to produce sulfates that reduce visibility and sunlight.

Table 3-3 shows no data has been reported over the three-year period in California.

3.2.6. 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. Ambient Pb levels in Fresno are well below the ambient standard and are expected to continue to decline; the data reported in Table 3-3 shows the highest concentration and the measured number of days exceeding the standards. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.
3.3. CLIMATE

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez Strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez Strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the project site is expected to be similar to the data recorded at the Hanford monitoring station. This data is provided in Table 3-4 – Hanford Weather Data, which contains average precipitation data recorded at the Hanford monitoring station. Over the 116-year period from July of 1899 through June of 2016 (the most recent data available), the average annual precipitation was 8.38 inches.

### Table 3-4 – Hanford Weather Data

<table>
<thead>
<tr>
<th>Period of Record Monthly Climate Summary for the Period 07/01/1899 to 6/09/2016</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Maximum Temp (°F)</td>
<td>54.7</td>
<td>61.9</td>
<td>67.5</td>
<td>74.9</td>
<td>83.6</td>
<td>91.4</td>
<td>97.8</td>
<td>96.1</td>
<td>90.5</td>
<td>80.0</td>
<td>66.2</td>
<td>55.4</td>
<td>76.7</td>
</tr>
<tr>
<td>Avg. Minimum Temp (°F)</td>
<td>35.2</td>
<td>38.6</td>
<td>42.1</td>
<td>46.4</td>
<td>52.5</td>
<td>58.3</td>
<td>62.5</td>
<td>60.4</td>
<td>55.5</td>
<td>47.4</td>
<td>38.8</td>
<td>34.6</td>
<td>47.7</td>
</tr>
<tr>
<td>Average Total Precip. (in.)</td>
<td>1.60</td>
<td>1.53</td>
<td>1.48</td>
<td>0.77</td>
<td>0.26</td>
<td>0.09</td>
<td>0.01</td>
<td>0.01</td>
<td>0.16</td>
<td>0.39</td>
<td>0.84</td>
<td>1.24</td>
<td>8.38</td>
</tr>
<tr>
<td>Average Snowfall (in.)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Average Snow Depth (in.)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Percent of possible observations for period of record:
- Max. Temp.: 98.4%
- Min. Temp.: 98.1%
- Precipitation: 98.8%
- Snowfall: 98.2%
- Snow Depth: 98.2%

Source: Western Regional Climate Center, 2018.
3.4. CLIMATE CHANGE AND GREENHOUSE GASES

3.4.1. Global Climate Change

Global climate change refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term “global climate change” is often used interchangeably with the term “global warming,” but “global climate change” is preferred by some scientists and policy makers to “global warming” because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth’s orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere’s composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California’s coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO₂) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth’s surface (USGCRP, 2014). Many scientists believe “most of the warming observed over the last 50 years is attributable to human activities” (IPCC, 2017). The increased amount of CO₂ and other GHGs in the atmosphere is the alleged primary cause of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO₂, methane (CH₄), nitrous oxide (N₂O), and O₃. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO₂, CH₄, and N₂O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e).

Natural sources of CO₂ include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO₂ each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation,
cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO₂ from human activities. Consequently GHGs are building up in the atmosphere (Environpedia, 2017).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH₄ production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH₄ emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH₄, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH₄ concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO₂e and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2016). Emissions from the top five emitting countries and the European Union accounted for approximately 55% of total global GHG emissions. The United States was the number two producer of GHG emissions. The primary GHG emitted by human activities in the United States was CO₂, representing approximately 84% of total GHG emissions (U.S. EPA, 2016).

In 2009, the United States emitted approximately 6.6 billion metric tons of CO₂e or approximately 25 tons per year (tpy) per person. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 62% of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2006, total United States GHG emissions rose approximately 14.7% (U.S. EPA, 2016).

Worldwide CO₂ emissions are expected to increase by 1.9% annually between 2001 and 2025 (U.S. Energy Information Center, 2017). Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries’ emissions are expected to grow above the world average at 2.7% annually between 2001 and 2025, and surpass emissions of industrialized countries around 2018.

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB’s current GHG emission inventory covers the years 1990 through 2008 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

California’s net emissions of GHG decreased 1.3% from 459 million metric tons (MMT) of CO₂e in 2000 to 453 MMT in 2009, with a maximum of 483.9 MMT in 2004. Driven by a noticeable drop in on-road transportation emissions, statewide GHG emissions dropped from 485 MMT CO₂e in 2008 to 457 MMT in 2009. (2009 also reflects the beginning of the economic recession and fuel price spikes.) As the economy recovers, GHG emissions are likely to rise again without other mitigation actions. During the same period from 2000 to 2009, California’s GHG emissions per person decreased by 9.7%, but the emissions reductions were offset by the state’s population increase of 9.0%.

CARB estimates that transportation was the source of approximately 38% of California’s GHG emissions in 2009, followed by electricity generation at 23%. Other sources of GHG emissions were industrial sources at 20%, residential plus commercial activities at 9%, and agriculture at 7%.
CARB has projected statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Portfolio Standard (RPS) (38 MMT CO₂e total), will be 507 MMT of CO₂e (CARB, 2014a). GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36% and 22% of total CO₂e emissions, respectively, as compared to 2009. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18% of total CO₂e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 7%, residential and commercial activities at 9%, agriculture at 6%, and recycling and waste at 2%.

3.4.2. Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining by 70% to 90%, threatening the state’s water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California’s coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area as it is a significant distance away from coastal areas.)
An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.

Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30% toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90% more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

Increasing temperatures from 8 to 10.4 °F under the higher emission scenarios, leading to a 25% to 35% increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).

Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.

Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.

Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85% more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.

A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Increased electricity demand, particularly in the hot summer months.

Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3. Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, “global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California.” The Act caps California’s GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020...
Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth’s global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

The California Supreme Court’s most recent CEQA decision on the Newhall Ranch development case, *Center for Biological v. California Department of Fish and Wildlife* (November 30, 2015, Case No. 217763), determined that the project’s Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to the California’s target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that “the EIR’s deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design.” In the Court’s final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less than significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans, or could apply specific numerical thresholds developed by some local agencies.

As discussed in Section 4.1, Significance Criteria, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29% reduction from BAU (a specific numerical threshold). Therefore the 29% reduction from BAU is applied to the subject Project in order to determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court’s ruling on the Newhall Ranch development project in order to determine significance using the project design features.
4. IMPACT ASSESSMENT

4.1. SIGNIFICANCE CRITERIA

To determine whether a proposed Project could create a potential CEQA impact, local, state, and federal agencies have developed various means by which a project’s impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB, and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate, and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

4.1.1. Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD’s GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O₃ precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD’s specific CEQA air quality thresholds are presented in Table 4-1.

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td>CO</td>
<td>100 tons/yr</td>
</tr>
<tr>
<td>NOₓ</td>
<td>10 tons/yr</td>
</tr>
<tr>
<td>ROG</td>
<td>10 tons/yr</td>
</tr>
<tr>
<td>SOₓ</td>
<td>27 tons/yr</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>15 tons/yr</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>15 tons/yr</td>
</tr>
</tbody>
</table>

Source: SJVAPCD 2015
4.1.2. Thresholds for Ambient Air Quality Impacts

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 AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in Table 3-1) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises “significant impact levels” (SIL) to NAAQS attainment areas. A project’s impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional “increment analysis” is required. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would “violate any air quality standard or contribute substantially to an existing or projected air quality violation.” Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O3 NAAQS and, as such, is subject to “non-attainment new source review” (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

4.1.3. Thresholds for Hazardous Air Pollutants

The SJVAPCD’s GAMAQI states, “From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors,
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources” (SJVAPCD 2015).

Table 4-2 presents the thresholds of significance uses with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

<table>
<thead>
<tr>
<th>Agency</th>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJVAPCD</td>
<td>Carcinogens</td>
<td>Maximally Exposed Individual risk equals or exceeds 20 in one million.</td>
</tr>
<tr>
<td></td>
<td>Non-Carcinogens</td>
<td>Acute: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual.</td>
</tr>
</tbody>
</table>

Source: SJVAPCD 2015

4.1.4. Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (APR 2005) (SJVAPCD 2009), which outlined the SJVAPCD’s methodology for assessing a project’s significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further
environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement Best Performance Standards (BPS).

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.

- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

Additionally, under SJVAPCD policy CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Reduction (APR 2025) (SJVAPCD 2014), the SJVAPCD finds that the Cap-and-Trade is a regulation plan approved by CARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with APR 2005 (SJVAPCD 2009), projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

### 4.2. PROJECT RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD’s GAMAQI. The GAMAQI identifies separate thresholds for a project’s short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

- **Short-term (Construction and Demolition)** – Construction emissions of the proposed Project were estimated in CalEEMod using applicant assumptions for equipment and construction schedule for the development of the Project on 3.3 net acres.

- **Long-term (Operations)** – Long term emissions were also estimated using EMFAC2014 and stationary source emission factors.

#### 4.2.1. Short-Term Emissions

Short-term emissions are primarily from the construction phase of a project, and would have temporary impacts on air quality.
The Project applicant provided a list of specific construction equipment; the construction emissions were therefore based on the provided equipment list accordingly for the proposed Project’s land use type and development intensity. Applying Project applicant assumptions and model defaults, construction emissions were estimated based on the estimated construction schedule. The Project construction is expected to last nine months with an additional month of commissioning and operations would begin by the end of Year 2019. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is accurate, and therefore, all estimated emission totals are conservative and a reasonable and legally sufficient estimate of potential impacts.

SJVAPCD’s required measures for all projects were also applied:

- Water exposed area 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 4-3 presents the Project’s short-term emissions based on the anticipated construction period.

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>Pollutant (tons/year)</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SO2</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmitigated 2019</td>
<td></td>
<td>0.48</td>
<td>4.79</td>
<td>3.36</td>
<td>0.006</td>
<td>0.32</td>
<td>0.27</td>
</tr>
<tr>
<td>Mitigated 2019</td>
<td></td>
<td>0.48</td>
<td>4.79</td>
<td>3.36</td>
<td>0.006</td>
<td>0.29</td>
<td>0.25</td>
</tr>
<tr>
<td>Significance Threshold</td>
<td></td>
<td>10</td>
<td>10</td>
<td>100</td>
<td>27</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Is Threshold Exceeded For a Single Year After Mitigation?</td>
<td></td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Source: Insight Environmental Consultants 2018

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during a given year and would therefore be less than significant.

4.2.2. Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area, and stationary sources. Long-term emissions would consist of the following components.

4.2.2.1. Fugitive Dust Emissions

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM10) emissions. The main source of PM10 emissions would be from vehicular traffic associated with the Project site.

PM10 on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD’s Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM10 Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other
Earthmoving Activities
- Rule 8041 - Carryout and Trackout
- Rule 8051 - Open Areas

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

4.2.2.2. Exhaust Emissions

Project-related transportation activities from employees and maintenance would generate mobile source ROG, NO\textsubscript{x}, SO\textsubscript{x}, CO, PM\textsubscript{10} and PM\textsubscript{2.5} exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of employees. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

4.2.2.3. Stationary Source Emissions

Stationary source emissions are anticipated to be negligible based on similar projects that have been construction and permitted within the SJVAPCD. Stationary source emissions from the Project would consist of VOC emissions vented to the atmosphere from the biogas upgrade process.

4.2.2.4. Projected Emissions

The proposed project is expected to have long-term air quality impacts as shown in Table 4-4. Emission calculations are available in Attachment B.

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>ROG</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>SO\textsubscript{x}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Source Emissions</td>
<td>0.0020</td>
<td>0.0522</td>
<td>0.0255</td>
<td>0.0002</td>
<td>0.0018</td>
<td>0.0010</td>
</tr>
<tr>
<td>Stationary Source Emissions</td>
<td>0.0001</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SJVAPCD Threshold</td>
<td>10</td>
<td>10</td>
<td>100</td>
<td>27</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Is Threshold Exceeded After Mitigation?</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Source: Insight Environmental Consultants 2018

As shown in Table 4-4, operations-related emissions, as calculated in Attachment B, would be less than the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a less than significant impact during Project operations.

4.3. POTENTIAL IMPACTS ON SENSITIVE RECEPTORS

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. There are scattered agricultural residences scattered in the surrounding area to the Project site. These residential receptors represent the nearest sensitive receptors to the proposed Project site with the closest approximately 0.52 miles to the southeast of the Project. There are no known non-residential sensitive receptors within 2 miles of the Project site.
4.4. POTENTIAL IMPACTS TO VISIBILITY TO NEARBY CLASS 1 AREAS

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the Project’s PM$_{10}$ emissions increase are predicted to be less than the PSD threshold levels, an impact at any Class 1 area within 100 kilometers of the Project is extremely unlikely. Therefore, based on the Project’s predicted less-than significant PM$_{10}$ emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 Area.

4.5. POTENTIAL IMPACTS FROM CARBON MONOXIDE

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. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or “hotspots” even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project’s emissions would exceed of one or more of these standards. If ambient levels already exceed a state standard, a project’s emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD’s GAMAQI by which CO “Hot Spot” modeling is required:

I. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F; or

II. A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project applicant, a traffic generation assessment impact study has not been prepared for this project and no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels. Therefore, CO “Hotspot” Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6. PREDICTED HEALTH RISK IMPACTS

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. Typical sources of HAPs include diesel trucks or permitted sources such as engines, boilers or storage tanks. The Hanford-Lakeside Dairy Digester Cluster Project will be located near scattered agricultural residences. Since there will be a negligible amount of HAPs emitted from the Project and only occasional diesel truck travel on-site, a prioritization score was determined for the facility to determine if a health risk assessment (HRA) would be required. An HRA is not required for a project with a total facility prioritization score of less than or equal to one. The Project’s prioritization score was 0.09, which is less than one. Therefore, no further analysis is required to determine the HAPs impacts from this project and potential risk to the population attributable to emissions of HAPs from the proposed Project would be less than significant.
4.7. ODOR IMPACTS AND MITIGATION

The SJVAPCD’s GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources." (SJVAPCD 2015).

GAMAQI also states "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because the operations of the Project are not expected to cause a public nuisance due to odor and the anticipated Project site is not listed in Table 6 of the GAMAQI as a source which would create objectionable odors, the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD’s GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the Project emission estimates indicate that the proposed Project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

4.8. IMPACTS TO AMBIENT AIR QUALITY

An ambient air quality analysis, when required, determines if the proposed Project has the potential to cause a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. As demonstrated in Section 4.2.2 Long Term Operational Emissions, the Project's potential increase to any criteria pollutants is negligible and would not be anticipated to cause an exceedance of any ambient air quality thresholds; therefore, an ambient air quality analysis was not required. Therefore, the Project's contribution to potential violations of ambient air quality standards would be less-than-significant.

4.9. IMPACTS TO GREENHOUSE GASES AND CLIMATE CHANGE

The proposed Project’s construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2), EMFAC2014, and the California Climate Action Registry General Reporting Protocol (Version 3.1). These emissions are summarized in Table 4-5.
The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. In order for the Project to be considered less than significant, it would need to conform with the goals of AB32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation. Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a less than significant individual and cumulative impact on global climate change.

### 4.9.1. Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD’s "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented, which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether the Project individually would have a significant impact on global warming or climate change, the Project would potentially contribute to cumulative GHG emissions in California as well as to related health effects. The Project emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project’s contribution would be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems, the lower the thresholds for treating a project’s contribution to cumulative impacts as significant. Given the position of the legislature in AB32, which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's CO₂ contribution may be considered cumulatively considerable. This determination is “speculative,” given the lack of clear scientific evidence or other criteria for determining the significance of the Project’s contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project’s GHG emissions and are summarized in the table below.

### Table 4-5 – Estimated Annual GHG Emissions (MT/Year)

<table>
<thead>
<tr>
<th>Source</th>
<th>CO₂</th>
<th>CH₄</th>
<th>N₂O</th>
<th>CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019 Construction Emissions</td>
<td>522.78</td>
<td>0.137</td>
<td>0.000</td>
<td>526.21</td>
</tr>
<tr>
<td><strong>Operational Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Emissions</td>
<td>17.41</td>
<td>0.001</td>
<td>0.001</td>
<td>17.68</td>
</tr>
<tr>
<td>Stationary Source Emissions</td>
<td>0.00015</td>
<td>0.0001</td>
<td>0.000</td>
<td>0.002</td>
</tr>
<tr>
<td>Energy Emissions</td>
<td>3,556</td>
<td>0.569</td>
<td>4.640</td>
<td>3,561</td>
</tr>
<tr>
<td><strong>Total Project Operational Emissions</strong></td>
<td>3,573</td>
<td>0.570</td>
<td>4.640</td>
<td>3,578</td>
</tr>
<tr>
<td>Annualized Construction Emissions¹</td>
<td>17.43</td>
<td>0.005</td>
<td>0.000</td>
<td>17.54</td>
</tr>
<tr>
<td><strong>Project Emissions</strong></td>
<td>3,590</td>
<td>0.574</td>
<td>4.640</td>
<td>3,596</td>
</tr>
</tbody>
</table>

*Note: 0.00 could represent <0.00

¹ Per South Coast AQMD’s Methodology
Table 4-6 – Select CARB GHG Emission Reduction Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description of Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Climate Change Standards</td>
<td>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.</td>
</tr>
<tr>
<td>Diesel Anti-Idling</td>
<td>In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling.</td>
</tr>
<tr>
<td>Other Light-Duty Vehicle Technology</td>
<td>New standards would be adopted to phase in beginning in the 2017 model year.</td>
</tr>
<tr>
<td>Alternative Fuels: Biodiesel Blends</td>
<td>CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.</td>
</tr>
<tr>
<td>Alternative Fuels: Ethanol</td>
<td>Increased use of ethanol fuel.</td>
</tr>
<tr>
<td>Heavy-Duty Vehicle Emission Reduction Measures</td>
<td>Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.</td>
</tr>
</tbody>
</table>

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project’s GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes 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. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation. Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a less than significant individual and cumulative impact on global climate change.
5. CUMULATIVE IMPACTS

By its very nature, air pollution has a cumulative impact. The District’s nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project’s emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are 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 [CCR §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3), a Lead Agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to, an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015a)

GAMAQI also states “If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant.” (SJVAPCD 2015a). Based on the analysis conducted for this Project, it is individually less than significant. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- **Cumulative O₃ Impacts** (ROG and NOₓ) from numerous sources within the region including transport from outside the region. O₃ is formed through chemical reactions of ROG and NOₓ in the presence of sunlight.
- **Cumulative CO Impacts** produced primarily by vehicular emissions.
- **Cumulative PM₁₀ Impacts** from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM₁₀ if several projects conduct grading or earthmoving activities at the same time; and
- **Hazardous Air Pollutant (HAP) Impacts** on sensitive receptors from within the SJVAPCD recommended screening radius of one mile.

5.1. CUMULATIVE REGIONAL AIR QUALITY IMPACTS

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O₃ Standards (SJVAPCD 2007). Table 5-1 provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.
As shown in Table 5-1 the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Tables 5-2 through 5-4 provide CARB Emissions Inventory projections for the year 2020 for both the SJVAB and the Kings County. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Kings County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kings County and the entire SJVAB.

<table>
<thead>
<tr>
<th>Emissions Inventory Source</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kings County - 2015</td>
<td>7,775</td>
<td>5,110</td>
<td>10,622</td>
<td>73</td>
<td>8,541</td>
<td>1,789</td>
</tr>
<tr>
<td>SJVAB - 2015</td>
<td>119,063</td>
<td>123,808</td>
<td>245,390</td>
<td>3,103</td>
<td>96,616</td>
<td>23,214</td>
</tr>
<tr>
<td>Proposed Project</td>
<td>0.0021</td>
<td>0.0522</td>
<td>0.0255</td>
<td>0.0002</td>
<td>0.0018</td>
<td>0.0010</td>
</tr>
<tr>
<td>Proposed Project’s % of Kings</td>
<td>0.000027</td>
<td>0.00102</td>
<td>0.00024</td>
<td>0.00027</td>
<td>0.000021</td>
<td>0.000056</td>
</tr>
<tr>
<td>Proposed Project’s % of SJVAB</td>
<td>0.000002</td>
<td>0.00004</td>
<td>0.00001</td>
<td>0.00001</td>
<td>0.000002</td>
<td>0.000004</td>
</tr>
</tbody>
</table>

NOTES:
1 This is the latest inventory available as of June 2018, excluding Natural Sources.
SOURCE: CARB 2018b

Source: CARB 2018b
Note: Total may not add due to rounding.

Source: CARB 2018b
Note: Total may not add due to rounding.
Table 5-4 - 2020 Emissions Projections – Proposed Project, Kings County, and San Joaquin Valley Air Basin

<table>
<thead>
<tr>
<th></th>
<th>ROG</th>
<th>NOx</th>
<th>PM_{10}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Project</td>
<td>0.0021</td>
<td>0.0522</td>
<td>0.0018</td>
</tr>
<tr>
<td>Kings County</td>
<td>7,884</td>
<td>4,745</td>
<td>8,286</td>
</tr>
<tr>
<td>SJVAB</td>
<td>108,113</td>
<td>74,204</td>
<td>96,652</td>
</tr>
<tr>
<td>Proposed Project Percent of Kinga County</td>
<td>0.000027%</td>
<td>0.0011%</td>
<td>0.000022%</td>
</tr>
<tr>
<td>Proposed Project Percent of SJVAB</td>
<td>0.000002%</td>
<td>0.0001%</td>
<td>0.000002%</td>
</tr>
<tr>
<td>Kings County Percent of SJVAB</td>
<td>7.29%</td>
<td>6.39%</td>
<td>8.57%</td>
</tr>
</tbody>
</table>

Source: CARB 2018b
Notes: The emission estimates for Kings County and the SJVAB are based on 2020 projections. The Proposed Project emission estimates are for the proposed emissions that are not already included in the SJVAB Emissions Inventory. Project emissions are based on 2019 emissions estimates to present the most conservative comparison. The Project’s emissions are expected to decline as cleaner, less polluting vehicles replace vehicles with higher emissions.

As shown above, the proposed Project would pose no impact on regional O₃ and PM_{10} formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would not be considered cumulatively considerable in its contribution to regional O₃ and PM_{10} impacts.

5.2. CUMULATIVE LOCAL AIR QUALITY IMPACTS

Records search of the City of Hanford Planning Division’s records and development files and Kings County Community Development Agency’s GIS Viewer and records identified zero other projects within a one-mile radius of the proposed Project. The number or size of cumulative projects is of no particular significance since no “cumulative” emissions thresholds have been established by the SJVAPCD, the City of Hanford Planning Division, or the Kings County Community Development Agency. Because the proposed Project would generate less than significant Project-related operational impacts to criteria air pollutants, the Project’s contribution to cumulative air quality impacts would not be cumulatively considerable.

5.3. CUMULATIVE HAZARDOUS AIR POLLUTANTS

The GAMAQI states that when evaluating potential impacts related to HAPs, “impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards.” Because the Project would not be a significant sources of HAPS, the proposed Project would also not be expected to pose a significant cumulative CO or HAPs impact.

5.4. CUMULATIVE CARBON MONOXIDE (CO) - MOBILE SOURCES

The SJVAPCD’s GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD’s CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO “Hot Spot” modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.
According to the Project applicant, a traffic generation assessment impact study has not been prepared for this project and no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.
Air quality impacts from proposed projects within Kings County are controlled through policies and provisions of the SJVAPCD and the Kings County General Plan (KCCDA 2010). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD’s plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD’s adopted Air Quality Attainment Plans (AQAP) for O₃ and PM₁₀. The SJVAPCD is required to submit a “Rate of Progress” document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

### 6.1. REQUIRED EVALUATION GUIDELINES

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. **Determination that an AQAP is being implemented in the area where the project is being proposed.** The SJVAPCD has implemented the current, modified, AQAP as approved by the CARB. The current AQAP is under review by the U.S. EPA.
2. **The proposed project must be consistent with the growth assumptions of the applicable AQAP.** The proposed project is included within the growth projected in the Kings County General Plan.
3. **The project must contain in its design all reasonably available and feasible air quality control measures.** The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.
As the growth represented by the proposed project was anticipated by the Kings County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. The findings of the analysis show that the Project’s minimal employment increases are planned for the project area; and
2. That, by definition, the proposed emissions from the project are below the SJVAPCD’s established emissions impact thresholds

Based on these factors, the project appears to be consistent with the AQAP.

6.2. CONSISTENCY WITH THE KINGS COUNTY ASSOCIATION OF GOVERNMENT’S AIR QUALITY CONFORMITY ANALYSIS

The Kings County Association of Governments (KCAG) Air Quality Conformity Analysis (KCAG 2016) demonstrates that the 2017 Federal Transportation Improvement Program (2017 FTIP) and 2014 Regional Transportation Plan (2014 RTP) in the Kings County would not hinder the efforts set out in the CARB’s SIP for each area’s non-attainment pollutants (CO, O₃, PM₁₀ and PM₂.₅). The analysis uses the San Joaquin Valley Demographic Forecasts 2010 to 2050 (Planning Center 2012).

The KCAG Air Quality Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kings County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Air Quality Conformity Analysis were not incorporated into the KCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current Kings County Zoning, the project site is designated as “AG20” (see Figure 6-1).

![Figure 6-1 – Kings County Zoning](image-url)
Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. In order to determine whether the forecasted growth for the project area is sufficient to account for the projected increases in employment, an analysis based on KCAG regional forecast was conducted. Employment forecast for the analysis area appear to be sufficient to account for 100% of the planned employment growth attributed to the proposed Project. In order to be considered “consistent” and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. According to Table 2-2 of KCAG’s Air Quality Conformity Analysis there is a projected employee increase of 7,988 in Kings County between 2010 and 2020.
7. MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed Project would be *less than significant*, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval:

### 7.1. SJVAPCD REQUIRED PM$_{10}$ REDUCTION MEASURES

As the project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, by using chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).
7.2. RECOMMENDED MEASURES TO REDUCE EQUIPMENT EXHAUST

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the project area shall be discontinued during the first stage smog alerts.
- Construction and grading activities shall not be allowed during first stage O3 alerts. First stage O3 alerts are declared when the O3 level exceeds 0.20 ppm (1-hour average).

7.3. OTHER MEASURES TO REDUCE PROJECT IMPACTS

The following measures are recommended to further reduce the potential for long-term emissions from the Project (if applicable). These measures are required as a matter of regulatory compliance:

- The project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII, and Indirect Source Rules for the SJVAPCD.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt;
  - Medium cure cutback asphalt;
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
- The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).
8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Both of these impacts would be mitigated and were found to be less than significant before and after mitigation.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts were found to be less than significant.

The proposed Project in conjunction with other past, present and foreseeable future Projects will result in cumulative short-term and long-term impacts to air quality. The proposed Project’s incremental contribution to these impacts would be mitigated and are below thresholds of significance and would be not be considered cumulatively considerable. Therefore, the Project’s contribution to cumulative impacts were found to be less than significant.

The proposed Project in conjunction with other past, present and foreseeable future projects would result in cumulative long-term impacts to global climate change. The proposed Project’s incremental contribution to these impacts will be mitigated to the extent feasible and are considered less than significant.
9. REFERENCES


California Environmental Quality Act (CEQA) Statute and Guidelines. 2016. (Public Resources Code 21000 to 21177) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).


Kings County Association of Governments (KCAG). September 2016. Air Quality Conformity Analysis.

Kings County Community Development Agency (KCCDA), 2010. 2035 Kings County General Plan.


------. 2007. SJVAB Emissions Inventory to Demonstrating Attainment of Federal 1-hour O3 Standards, SJVAPCD, September 2007


## Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Visalia-N Church Street

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>24-Hr Average</td>
<td>Date</td>
<td>24-Hr Average</td>
</tr>
<tr>
<td><strong>National:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Oct 14 102.4</td>
<td>Jan 6 67.3</td>
<td>Sep 19 137.1</td>
</tr>
<tr>
<td>Second High:</td>
<td>Jan 5 99.5</td>
<td>Jan 12 57.9</td>
<td>Sep 21 121.1</td>
</tr>
<tr>
<td>Third High:</td>
<td>Jan 23 97.8</td>
<td>Jan 30 43.5</td>
<td>Sep 20 115.3</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Oct 8 95.2</td>
<td>Feb 17 42.8</td>
<td>Sep 30 110.1</td>
</tr>
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<td><strong>California:</strong></td>
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<tr>
<td>First High:</td>
<td>Jan 5 104.2</td>
<td>Sep 8 140.3</td>
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<td>Jan 23 101.0</td>
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<td>Oct 14 100.9</td>
<td>Sep 9 136.9</td>
<td>Sep 20 112.3</td>
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<tr>
<td>Fourth High:</td>
<td>Jan 17 99.0</td>
<td>Sep 12 133.4</td>
<td>Sep 30 109.3</td>
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### Notes:

Daily PM10 averages and related statistics are available at Visalia-N Church Street between 1988 and 2016. Some years in this range may not be represented. All averages expressed in micrograms per cubic meter.
## Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

### at Hanford-S Irwin Street

<table>
<thead>
<tr>
<th></th>
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<th>2015</th>
<th>2016</th>
</tr>
</thead>
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<td>24-Hr Average</td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
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<td>131.3</td>
<td>Sep 11</td>
<td>136.9</td>
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<tr>
<td>Second High: Jan 22</td>
<td>129.5</td>
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<td>128.8</td>
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<tr>
<td>Third High: Jan 7</td>
<td>128.0</td>
<td>Sep 12</td>
<td>128.0</td>
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<td>125.1</td>
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<td>118.1</td>
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<tr>
<td>First High: Oct 14</td>
<td>125.7</td>
<td>Sep 9</td>
<td>108.6</td>
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<td>Second High: Jan 17</td>
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<td>Fourth High: Jan 23</td>
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<td>95.6</td>
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### Notes:

Daily PM10 averages and related statistics are available at Hanford-S Irwin Street between 1993 and 2016. Some years in this range may not be represented. All averages expressed in micrograms per cubic meter.
**Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages**

at Visalia-N Church Street

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>24-Hr Average</th>
<th>Date</th>
<th>24-Hr Average</th>
<th>Date</th>
<th>24-Hr Average</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
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<td>Jan 9</td>
<td>86.3</td>
<td>Nov 6</td>
<td>48.0</td>
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<td></td>
<td>Second High: Nov 7</td>
<td>76.8</td>
<td>Jan 12</td>
<td>57.3</td>
<td>Jan 1</td>
<td>43.0</td>
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<tr>
<td></td>
<td>Third High: Jan 5</td>
<td>75.4</td>
<td>Jan 30</td>
<td>45.8</td>
<td>Dec 20</td>
<td>40.7</td>
</tr>
<tr>
<td></td>
<td>Fourth High: Jan 2</td>
<td>72.3</td>
<td>Sep 9</td>
<td>45.6</td>
<td>Dec 29</td>
<td>39.3</td>
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**California:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>24-Hr Average</th>
<th>Date</th>
<th>24-Hr Average</th>
<th>Date</th>
<th>24-Hr Average</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>First High: Jan 3</td>
<td>85.9</td>
<td>Jan 11</td>
<td>91.5</td>
<td>Dec 30</td>
<td>53.9</td>
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<td></td>
<td>Second High: Nov 10</td>
<td>81.3</td>
<td>Jan 9</td>
<td>86.3</td>
<td>Nov 6</td>
<td>51.0</td>
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<td></td>
<td>Third High: Nov 9</td>
<td>78.0</td>
<td>Jan 10</td>
<td>68.3</td>
<td>Dec 22</td>
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<td>Fourth High: Nov 7</td>
<td>76.8</td>
<td>Jan 8</td>
<td>66.5</td>
<td>Dec 21</td>
<td>49.5</td>
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**National:**

<table>
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<th>Year</th>
<th>Estimated # Days &gt; 24-Hour Std:</th>
<th>Measured # Days &gt; 24-Hour Std:</th>
<th>24-Hour Standard Design Value:</th>
<th>24-Hour Standard 98th Percentile:</th>
<th>2006 Annual Std Design Value:</th>
<th>2013 Annual Std Design Value:</th>
<th>Annual Average:</th>
<th>California: Annual Std Designation Value:</th>
<th>Annual Average:</th>
<th>Year Coverage:</th>
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<tr>
<td></td>
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<td>64</td>
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</table>

Notes:

Daily PM2.5 averages and related statistics are available at Visalia-N Church Street between 1999 and 2016. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.
# Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

## at Hanford-S Irwin Street

<table>
<thead>
<tr>
<th>Date</th>
<th>24-Hr Average</th>
<th>Date</th>
<th>24-Hr Average</th>
<th>Date</th>
<th>24-Hr Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>National:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Jan 1</td>
<td>96.7</td>
<td>Jan 9</td>
<td>98.2</td>
<td>Nov 5</td>
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<tr>
<td>Second High:</td>
<td>Nov 10</td>
<td>95.7</td>
<td>Jan 10</td>
<td>88.5</td>
<td>Dec 22</td>
</tr>
<tr>
<td>Third High:</td>
<td>Nov 9</td>
<td>93.2</td>
<td>Jan 11</td>
<td>78.9</td>
<td>Dec 21</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Nov 6</td>
<td>91.2</td>
<td>Jan 8</td>
<td>74.0</td>
<td>Nov 11</td>
</tr>
<tr>
<td>California:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Jan 1</td>
<td>96.7</td>
<td>Jan 9</td>
<td>98.2</td>
<td>Nov 5</td>
</tr>
<tr>
<td>Second High:</td>
<td>Nov 10</td>
<td>95.7</td>
<td>Jan 10</td>
<td>88.5</td>
<td>Dec 22</td>
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<tr>
<td>Third High:</td>
<td>Nov 9</td>
<td>93.2</td>
<td>Jan 11</td>
<td>78.9</td>
<td>Dec 21</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Nov 6</td>
<td>91.2</td>
<td>Jan 8</td>
<td>74.0</td>
<td>Nov 11</td>
</tr>
</tbody>
</table>

| National:   |               |        |               |        |               |
| Estimated # Days > 24-Hour Std: | 33.8 | 27.8 | 25.0 |
| Measured # Days > 24-Hour Std: | 30  | 25   | 25   |
| 24-Hour Standard Design Value: | 66  | 67   | 59   |
| 24-Hour Standard 98th Percentile: | 81.9 | 51.4 | 43.3 |
| 2006 Annual Std Design Value: | 16.8 | 17.4 | 16.5 |
| 2013 Annual Std Design Value: | 16.8 | 17.4 | 16.5 |
| Annual Average: | 17.4 | 16.4 | 15.5 |
| California:  |               |        |               |        |               |
| Annual Std Designation Value: | 18  | 18   | 16   |
| Annual Average: | * | 16.5 | 15.6 |
| Year Coverage: | 95 | 91   | 100  |

Notes:
- Daily PM2.5 averages and related statistics are available at Hanford-S Irwin Street between 2010 and 2016.
- Some years in this range may not be represented.
- All averages expressed in micrograms per cubic meter.
### Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

#### at Visalia-N Church Street

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th></th>
<th>2015</th>
<th></th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date</td>
<td>8-Hr Average</td>
<td>Date</td>
<td>8-Hr Average</td>
<td>Date</td>
</tr>
<tr>
<td>National 2015 Std (0.070 ppm):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Jun 8</td>
<td>0.079</td>
<td>Jul 31</td>
<td>0.090</td>
<td>Jul 27</td>
</tr>
<tr>
<td>Second High:</td>
<td>Jun 10</td>
<td>0.079</td>
<td>Jun 26</td>
<td>0.087</td>
<td>Jun 27</td>
</tr>
<tr>
<td>Third High:</td>
<td>Oct 7</td>
<td>0.079</td>
<td>Sep 8</td>
<td>0.087</td>
<td>Jul 26</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Aug 2</td>
<td>0.078</td>
<td>Sep 25</td>
<td>0.087</td>
<td>Aug 11</td>
</tr>
<tr>
<td>California Std (0.070 ppm):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Jun 8</td>
<td>0.080</td>
<td>Jul 31</td>
<td>0.091</td>
<td>Jul 27</td>
</tr>
<tr>
<td>Second High:</td>
<td>Jun 10</td>
<td>0.080</td>
<td>Jun 26</td>
<td>0.088</td>
<td>Jun 27</td>
</tr>
<tr>
<td>Third High:</td>
<td>Aug 29</td>
<td>0.079</td>
<td>Sep 8</td>
<td>0.088</td>
<td>Jul 26</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Oct 7</td>
<td>0.079</td>
<td>Sep 25</td>
<td>0.087</td>
<td>Aug 11</td>
</tr>
</tbody>
</table>

#### # Days Above the Standard:

- National 2015 Std (0.070 ppm):
  - First High: 25
  - Second High: 49
  - Third High: 18

- California Std (0.070 ppm):
  - First High: 27
  - Second High: 52
  - Third High: 19

#### National Designation Values:

- National Year Coverage: 99, 97, 98
- California Designation Value: 0.090, 0.088, 0.088
- Expected Peak Day Concentration: 0.091, 0.089, 0.090
- California Year Coverage: 98, 94, 98

**Notes:**

- Eight-hour ozone averages and related statistics are available at Visalia-N Church Street between 1979 and 2016. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.
# Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

## at Hanford-S Irwin Street

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>8-Hr Average</td>
<td>Date</td>
<td>8-Hr Average</td>
</tr>
<tr>
<td>National 2015 Std (0.070 ppm):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Sep 12 0.094</td>
<td>Sep 8 0.094</td>
<td>Jun 4 0.088</td>
</tr>
<tr>
<td>Second High:</td>
<td>Jul 8 0.090</td>
<td>Sep 10 0.090</td>
<td>Aug 17 0.087</td>
</tr>
<tr>
<td>Third High:</td>
<td>Jun 10 0.086</td>
<td>Jun 12 0.085</td>
<td>Jul 27 0.085</td>
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<td>Fourth High:</td>
<td>Aug 2 0.086</td>
<td>Jun 26 0.085</td>
<td>Jul 15 0.083</td>
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<td>California Std (0.070 ppm):</td>
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<tr>
<td>First High:</td>
<td>Sep 12 0.095</td>
<td>Sep 8 0.094</td>
<td>Jun 4 0.088</td>
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<tr>
<td>Second High:</td>
<td>Jul 8 0.091</td>
<td>Sep 10 0.090</td>
<td>Aug 17 0.087</td>
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<td>Aug 2 0.087</td>
<td>Jun 12 0.085</td>
<td>Jul 27 0.085</td>
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<tr>
<td>Fourth High:</td>
<td>Jun 10 0.086</td>
<td>Jun 26 0.085</td>
<td>Jul 15 0.084</td>
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## National 2015 Std (0.070 ppm):
- # Days Above the Standard: 39 42 49
- Nat'l Standard Design Value: 0.084 0.085 0.084
- National Year Coverage: 100 99 97

## California Std (0.070 ppm):
- # Days Above the Standard: 40 46 53
- California Designation Value: 0.094 0.096 0.094
- Expected Peak Day Concentration: 0.094 0.096 0.094
- California Year Coverage: 96 97 96

## Notes:
- Eight-hour ozone averages and related statistics are available at Hanford-S Irwin Street between 1994 and 2016. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
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- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.
**Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements**

at Visalia-N Church Street

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th></th>
<th>2015</th>
<th></th>
<th>2016</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Date</td>
<td>Measurement</td>
<td>Date</td>
<td>Measurement</td>
<td>Date</td>
<td>Measurement</td>
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<tr>
<td>First High:</td>
<td>Aug 29</td>
<td>0.095</td>
<td>Sep 8</td>
<td>0.110</td>
<td>Jul 27</td>
<td>0.098</td>
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<tr>
<td>Second High:</td>
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<td>Jun 26</td>
<td>0.105</td>
<td>Aug 29</td>
<td>0.090</td>
</tr>
<tr>
<td>Third High:</td>
<td>Sep 14</td>
<td>0.090</td>
<td>Sep 9</td>
<td>0.101</td>
<td>Aug 30</td>
<td>0.089</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Aug 6</td>
<td>0.088</td>
<td>Jul 31</td>
<td>0.100</td>
<td>Jul 26</td>
<td>0.088</td>
</tr>
</tbody>
</table>

California:
- # Days Above the Standard: 1, 9, 1
- California Designation Value: 0.10, 0.10, 0.10
- Expected Peak Day Concentration: 0.099, 0.100, 0.098

National:
- # Days Above the Standard: 0, 0, 0

Notes:
- Hourly ozone measurements and related statistics are available at Visalia-N Church Street between 1979 and 2016. Some years in this range may not be represented.
- All concentrations expressed in parts per million.
- The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .
- An exceedance of a standard is not necessarily related to a violation of the standard.
- Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
- * means there was insufficient data available to determine the value.
### Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

**at Hanford-S Irwin Street**

<table>
<thead>
<tr>
<th>Date</th>
<th>Measurement</th>
<th>Date</th>
<th>Measurement</th>
<th>Date</th>
<th>Measurement</th>
</tr>
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<tbody>
<tr>
<td>First High:</td>
<td>Aug 2</td>
<td>0.108</td>
<td>Sep 10</td>
<td>0.119</td>
<td>Jun 4</td>
</tr>
<tr>
<td>Second High:</td>
<td>Sep 12</td>
<td>0.107</td>
<td>Sep 8</td>
<td>0.108</td>
<td>Aug 17</td>
</tr>
<tr>
<td>Third High:</td>
<td>Jun 10</td>
<td>0.099</td>
<td>Sep 21</td>
<td>0.107</td>
<td>Jul 16</td>
</tr>
<tr>
<td>Fourth High:</td>
<td>Oct 7</td>
<td>0.098</td>
<td>Sep 12</td>
<td>0.099</td>
<td>Jun 28</td>
</tr>
</tbody>
</table>

**California:**

- **# Days Above the Standard:** 5, 4, 2
- **California Designation Value:** 0.10, 0.10, 0.10
- **Expected Peak Day Concentration:** 0.101, 0.102, 0.100

**National:**

- **# Days Above the Standard:** 0, 0, 0
- **3-Year Estimated Expected Number of Exceedance Days:** 0.0, 0.0, 0.0
- **1-Year Estimated Expected Number of Exceedance Days:** 0.0, 0.0, 0.0
- **Nat'l Standard Design Value:** 0.104, 0.107, 0.107
- **Year Coverage:** 100, 98, 97

**Notes:**

- Hourly ozone measurements and related statistics are available at Hanford-S Irwin Street between 1994 and 2016. Some years in this range may not be represented.
- All concentrations expressed in parts per million.
- The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .
- An exceedance of a standard is not necessarily related to a violation of the standard.
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- * means there was insufficient data available to determine the value.
## Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

### at Visalia-N Church Street

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<th></th>
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<th>Date</th>
<th>Measurement</th>
<th>Date</th>
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<tbody>
<tr>
<td><strong>National:</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>First High:</td>
<td>Oct 8</td>
<td>64.5</td>
<td>Sep 21</td>
<td>62.3</td>
<td>Nov 11</td>
<td>57.5</td>
</tr>
<tr>
<td>Second High:</td>
<td>Oct 13</td>
<td>64.0</td>
<td>Aug 25</td>
<td>56.9</td>
<td>Nov 12</td>
<td>51.8</td>
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<tr>
<td>Third High:</td>
<td>Jan 2</td>
<td>59.3</td>
<td>Sep 1</td>
<td>54.3</td>
<td>Oct 20</td>
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</table>

### Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Visalia-N Church Street between 1979 and 2016. Some years in this range may not be represented. All concentrations expressed in parts per billion.
Top 4 Summary: **Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements**

at Hanford-S Irwin Street

<table>
<thead>
<tr>
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<td>Nov 9</td>
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</table>

**National:**
- 1-Hour Standard Design Value: 46, 44, 42
- 1-Hour Standard 98th Percentile: 45.0, 41.0, 41.1
- # Days Above the Standard: 0, 0, 0
- Annual Standard Design Value: 10, 9, 9

**California:**
- 1-Hour Std Designation Value: 60, 60, 50
- Expected Peak Day Concentration: 57, 55, 52
- # Days Above the Standard: 0, 0, 0
- Annual Std Designation Value: 10, 10, 10
- Annual Average: 10, 9, 8
- Year Coverage: 95, 93, 94

Notes:
Hourly nitrogen dioxide measurements and related statistics are available at Hanford-S Irwin Street between 1994 and 2016. Some years in this range may not be represented.
All concentrations expressed in parts per billion.
### Read About New Estimated Risk

<table>
<thead>
<tr>
<th>Year</th>
<th>Months Present</th>
<th>Minimum</th>
<th>Median</th>
<th>Mean</th>
<th>90th Percentile</th>
<th>Maximum</th>
<th>Standard Deviation</th>
<th>Number of Observations</th>
<th>Detection Limit</th>
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</table>

**Notes:**
Values below the Limit of Detection (LoD) assumed to be ½ LoD. Means and risks shown only for years with data in all 12 months. *** means there was insufficient or no data available to determine the value.
2019 Project Operational Light Duty Trucks Exhaust Emissions - EMFAC2014

Daily Equipment Checks and Quarterly Maintenance

Based on:

<table>
<thead>
<tr>
<th>Daily Round Trips/year:</th>
<th>365</th>
<th>(one trip per day)</th>
<th>Maintenance Trucks/year:</th>
<th>4</th>
<th>(one truck per quarter)</th>
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</thead>
<tbody>
<tr>
<td>Daily Miles/Round Trip:</td>
<td>18.4</td>
<td>(distance from Hanford)</td>
<td>miles/maintenance truck:</td>
<td>50</td>
<td>(estimated quarterly miles for maintenance)</td>
</tr>
<tr>
<td>Total miles traveled/year:</td>
<td>6,916</td>
<td>(1 truck per day for equipment checks (18.4 miles/day) and 1 truck per quarter for maintenance (50 miles per quarter))</td>
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<td></td>
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<table>
<thead>
<tr>
<th>Em. Factor (grams/mile)</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SOX</th>
<th>PM10¹</th>
<th>PM2.5¹</th>
<th>CO2</th>
<th>CH4²</th>
<th>N2O²</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lbs/Mile</td>
<td>1.48E-04</td>
<td>6.28E-04</td>
<td>5.57E-03</td>
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<tr>
<td>Tons/year</td>
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<td>7.89E-04</td>
<td>2.80E+00</td>
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</tbody>
</table>

¹ PM accounts for PM from running, tire wear and break wear.
²California Climate Action Registry General Reporting Protocol Version 3.1 April 2009. Table C4 Gasoline Light Trucks, Model Years 1987-1993 (used to be most conservative)

2019 Project Operational T7 Single Trucks Exhaust Emissions - EMFAC2014

Delivery Trucks

Based on:

<table>
<thead>
<tr>
<th>Round trips/year</th>
<th>52.0</th>
<th>(1 truck per week)</th>
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<tbody>
<tr>
<td>Miles/round trip</td>
<td>152.8</td>
<td>(Round trip distance to Bakersfield. Trucks may also come from Fresno)</td>
</tr>
<tr>
<td>Total miles traveled/year</td>
<td>7,946</td>
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<table>
<thead>
<tr>
<th>Em. Factor (grams/mile)</th>
<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SOX</th>
<th>PM10¹</th>
<th>PM2.5¹</th>
<th>CO2</th>
<th>CH4²</th>
<th>N2O²</th>
<th>CO2e</th>
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</thead>
<tbody>
<tr>
<td>Lbs/Mile</td>
<td>3.85E-04</td>
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<td>4.47E-05</td>
<td>4.20E-05</td>
<td>1.49E+01</td>
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</table>

¹ PM accounts for PM from running, tire wear and break wear.
²California Climate Action Registry General Reporting Protocol Version 3.1 April 2009. Table C4 Diesel Heavy-Duty Vehicles, All Model Years
Project Fugitive Gas Emissions

Assumptions:
Operation 24 hr/day, 365 days/yr
Flow Rate of raw biogas: 600 MMscf/yr
% of inlet gas to CO2 membrane system vented to atmosphere: 2%
Activated carbon is expected to remove 95% of the VOCs
VOC content of raw biogas: 0.296 lb/MMscf (taken from similar project S-8982, 1170742)
CO2 removal from gas to less than 3%

<table>
<thead>
<tr>
<th></th>
<th>VOC</th>
<th>CO2</th>
<th>CH4</th>
<th>CO2e</th>
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<td>Em. Factor (lbs/MMscf)</td>
<td>0.296</td>
<td>0.81</td>
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<td>Lbs/Year</td>
<td>0.18</td>
<td>0.29</td>
<td>0.18</td>
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<td>Tons/year</td>
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<td>0.0001</td>
<td>0.0001</td>
<td>0.002</td>
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Operational Exhaust and Fugitive Emissions (Total)

|                     | ROG   | NOx    | CO    | SOX   | PM10  | PM2.5  | CO2   | CH4   | N2O   | CO2e  |
|---------------------|-------|--------|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| Mobile emissions (tons/yr) | 0.0020 | 0.0522 | 0.0255| 0.0002| 0.0018| 0.0010 | 17.4104| 0.0007| 0.0008| 17.6820|
| Fugitive Gas Emissions (tons/yr) | 0.0001 | -      | -     | -     | -     | -      | -     | 1.462E-04| 8.88E-05| 0.00E+00| 2.01E-03|
| Operational total emissions (tons/year) | 0.0021 | 0.0522 | 0.0255| 0.0002| 0.0018| 0.0010 | 1.74E+01| 7.53E-04| 8.31E-04| 1.77E+01|
2019 Project Operational T7 Single Trucks Exhaust Emissions - EMFAC2014
Delivery Trucks Travel - On-site
Based on:

<p>| | | |</p>
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<td>76.0</td>
<td>(1 truck per week)</td>
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<tr>
<td>miles/round trip:</td>
<td>0.1</td>
<td>(On-site trip distance)</td>
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<td>Total miles traveled/year:</td>
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<table>
<thead>
<tr>
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<th>PM10$^1$</th>
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<td>Em. Factor (grams/mile)</td>
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<td>Lbs/Mile</td>
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<td>Lbs/Year</td>
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<td>lbs/day</td>
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<tr>
<td>Tons/year</td>
<td>1.07E-06</td>
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</table>

$^1$ PM10 = DPM

2019 Project Operational T7 Single Trucks Exhaust Emissions - EMFAC2014
Delivery Trucks Travel - Idle On-site
Based on:

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$^1$ PM accounts for PM from running, tire wear and break wear.

$^2$California Climate Action Registry General Reporting Protocol Version 3.1 April 2009. Table C4 Diesel Heavy-Duty Vehicles, All Model Years
Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

Hanford-Lakeside Dairy Digester Cluster Project - Construction  
Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

<table>
<thead>
<tr>
<th>Land Uses</th>
<th>Size</th>
<th>Metric</th>
<th>Lot Acreage</th>
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1.2 Other Project Characteristics

- **Urbanization**: Rural  
- **Wind Speed (m/s)**: 2.2  
- **Climate Zone**: 3  
- **Precipitation Freq (Days)**: 37  
- **Operational Year**: 2019

- **Utility Company**: Pacific Gas & Electric Company

- **CO2 Intensity (lb/MWhr)**: 641.35  
- **CH4 Intensity (lb/MWhr)**: 0.029  
- **N2O Intensity (lb/MWhr)**: 0.006

1.3 User Entered Comments & Non-Default Data
Project Characteristics -
Land Use - Actual Lot Acreage
Construction Phase - Anticipated Construction Schedule
Off-road Equipment - Anticipated Construction Equipment
Off-road Equipment - Anticipated Construction Equipment
Vehicle Trips - Construction Run Only
Consumer Products - Construction Run Only
Area Coating - Construction Run Only
Landscape Equipment - Construction Run Only
Energy Use - Construction Run Only
Water And Wastewater - Construction Run Only
Solid Waste - Construction Run Only
Construction Off-road Equipment Mitigation -

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- **T24E**: 1.96
- **T24NG**: 17.03

### tblGrading
- **AcresOfGrading**: 7.50

### tblLandUse
- **LotAcreage**: 0.89

### tblOffRoadEquipment
- **HorsePower**: 158.00
- **LoadFactor**: 0.38
- **LoadFactor**: 0.50
- **LoadFactor**: 0.48
- **LoadFactor**: 0.41
- **LoadFactor**: 0.38
- **LoadFactor**: 0.38
- **LoadFactor**: 0.38
- **LoadFactor**: 0.50

### tblProjectCharacteristics
- **UrbanizationLevel**: Urban

### tblSolidWaste
- **SolidWasteGenerationRate**: 37.20

### tblTripsAndVMT
- **WorkerTripNumber**: 10.00

### tblVehicleTrips
- **ST_TR**: 1.32
- **SU_TR**: 0.68
- **WD_TR**: 6.97

### tblWater
- **IndoorWaterUseRate**: 6,937,500.00

## 2.0 Emissions Summary
## 2.1 Overall Construction

### Unmitigated Construction

| Year | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------|-----|-----|----|-----|--------------|-------------|------------|---------------|--------------|------------|----------|---------|----------|----------|-----|-----|------|
|      |     |     |    |     |              |             |            |               |              |            |          |         |          |         |     |     |      |
| 2019 | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0654 | 0.2528 | 0.3181 | 0.0299 | 0.2361 | 0.2661 | 0.0000 | 522.7809 | 522.7809 | 0.1370 | 0.0000 | 526.2061 |
| Maximum | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0365 | 0.2528 | 0.2893 | 0.0146 | 0.2361 | 0.2508 | 0.0000 | 522.7803 | 522.7803 | 0.1370 | 0.0000 | 526.2055 |

### Mitigated Construction

| Year | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------|-----|-----|----|-----|--------------|-------------|------------|---------------|--------------|------------|----------|---------|----------|----------|-----|-----|------|
|      |     |     |    |     |              |             |            |               |              |            |          |         |          |         |     |     |      |
| 2019 | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0365 | 0.2528 | 0.2893 | 0.0146 | 0.2361 | 0.2508 | 0.0000 | 522.7803 | 522.7803 | 0.1370 | 0.0000 | 526.2055 |
| Maximum | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0365 | 0.2528 | 0.2893 | 0.0146 | 0.2361 | 0.2508 | 0.0000 | 522.7803 | 522.7803 | 0.1370 | 0.0000 | 526.2055 |

### Percent Reduction

| Percent Reduction | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|-----|-----|----|-----|--------------|-------------|------------|---------------|--------------|------------|----------|---------|----------|----------|-----|-----|------|
| 0.00              | 0.00 | 0.00 | 0.00 | 0.00 | 44.12 | 0.00 | 9.07 | 51.07 | 0.00 | 5.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

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<th>Quarter</th>
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<th>End Date</th>
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<th>Maximum Mitigated ROG + NOX (tons/quarter)</th>
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2.2 Overall Operational

Unmitigated Operational

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<th>SO2</th>
<th>Fugitive PM10</th>
<th>PM10 Total</th>
<th>Fugitive PM2.5</th>
<th>PM2.5 Total</th>
<th>Bio-CO2</th>
<th>NBio-CO2</th>
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2.2 Overall Operational

Mitigated Operational

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3.0 Construction Detail

Construction Phase

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<th>End Date</th>
<th>Num Days</th>
<th>Num Days Week</th>
<th>Phase Description</th>
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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

### OffRoad Equipment

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<th>Phase Name</th>
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<th>Usage Hours</th>
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### Trips and VMT
### 3.1 Mitigation Measures Construction

**Water Exposed Area**

Reduce Vehicle Speed on Unpaved Roads

### 3.2 Grading - 2019

**Unmitigated Construction On-Site**

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<th>Vendor Trip Number</th>
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<th>Vendor Trip Length</th>
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<th>Vendor Vehicle Class</th>
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#### 3.2.1 Grading - 2019

**Unmitigated Construction On-Site**

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<th>SO2</th>
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<th>Exhaust PM10</th>
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<th>PM2.5 Total</th>
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### 3.2 Grading - 2019

#### Unmitigated Construction Off-Site

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#### Mitigated Construction On-Site

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### 3.2 Grading - 2019

**Mitigated Construction Off-Site**

| Category     | ROG   | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2   | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|-------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|------------|-----------|-----------|-----------|---------|-----|-----|------|
| Hauling      | 0.000 | 0.000  | 0.000  | 0.000  | 0.000         | 0.000        | 0.000      | 0.000          | 0.000         | 0.000      | 0.000    | 0.000    | 0.000    | 0.000  |     |     |      |
| Vendor       | 0.000 | 0.000  | 0.000  | 0.000  | 0.000         | 0.000        | 0.000      | 0.000          | 0.000         | 0.000      | 0.000    | 0.000    | 0.000    | 0.000  |     |     |      |
| Worker       | 4.100e-004 | 3.500e-004 | 3.200e-003 | 1.000e-005 | 7.500e-004 | 1.000e-004 | 7.500e-005 | 2.000e-004 | 0.000 | 2.000e-004 | 0.000 | 6.493 | 0.000 | 3.000e-005 | 0.000 | 6.500 |
| **Total**    | 4.100e-004 | 3.500e-004 | 3.200e-003 | 1.000e-005 | 7.500e-004 | 1.000e-004 | 7.500e-005 | 2.000e-004 | 0.000 | 2.000e-004 | 0.000 | 6.493 | 0.000 | 3.000e-005 | 0.000 | 6.500 |

### 3.3 Building Construction - 2019

**Unmitigated Construction On-Site**

| Category     | ROG   | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2   | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|-------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|------------|-----------|-----------|-----------|---------|-----|-----|------|
| Off-Road     | 0.4567 | 4.5619 | 3.2068 | 5.4700e-003 | 0.2444        | 0.2444       | 0.2285     | 0.2285         | 0.000         | 484.2468   | 484.2468  | 0.1307    | 0.000    | 487.5144 |
| **Total**    | 0.4567 | 4.5619 | 3.2068 | 5.4700e-003 | 0.2444        | 0.2444       | 0.2285     | 0.2285         | 0.000         | 484.2468   | 484.2468  | 0.1307    | 0.000    | 487.5144 |
### 3.3 Building Construction - 2019

#### Unmitigated Construction Off-Site

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#### Mitigated Construction On-Site

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### 3.3 Building Construction - 2019

**Mitigated Construction Off-Site**

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### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile
### 4.2 Trip Summary Information

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### 4.4 Fleet Mix

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<th>LHD2</th>
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<th>HHD</th>
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### 5.0 Energy Detail

Historical Energy Use: N
5.1 Mitigation Measures Energy

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<th>CH4</th>
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5.2 Energy by Land Use - NaturalGas
Unmitigated

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<th>Fugitive PM2.5</th>
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### 5.2 Energy by Land Use - Natural Gas

**Mitigated**

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<th>Natural Gas Use</th>
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<th>CO</th>
<th>SO2</th>
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<th>Exhaust PM10</th>
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<th>Exhaust PM2.5</th>
<th>PM2.5 Total</th>
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<th>CO2e</th>
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### 5.3 Energy by Land Use - Electricity

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### 5.3 Energy by Land Use - Electricity

#### Mitigated

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<th>N2O MT/yr</th>
<th>CO2e MT/yr</th>
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### 6.0 Area Detail

#### 6.1 Mitigation Measures Area

| Category | ROG tons/yr | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-------------|-----|----|-----|---------------|--------------|------------|----------------|---------------|------------|----------|----------|----------|---------|-----|-----|------|
| Mitigated| 0.0000      |     |    |     |               |              |            |                |               |            |          |          |          |        |     |     |      |
| Unmitigated| 0.0000   |     |    |     |               |              |            |                |               |            |          |          |          |        |     |     |      |
### 6.2 Area by SubCategory

#### Unmitigated

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<th>NBio- CO2</th>
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#### Mitigated

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### 7.0 Water Detail

#### 7.1 Mitigation Measures Water
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### 7.2 Water by Land Use

**Unmitigated**

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7.2 Water by Land Use

Mitigated

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8.0 Waste Detail

8.1 Mitigation Measures Waste

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### 8.2 Waste by Land Use

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#### Mitigated

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### 9.0 Operational Offroad

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<th>Days/Year</th>
<th>Horse Power</th>
<th>Load Factor</th>
<th>Fuel Type</th>
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## 10.0 Stationary Equipment

### Fire Pumps and Emergency Generators

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<th>Hours/Year</th>
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### Boilers

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### User Defined Equipment

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## 11.0 Vegetation
## Operational GHG Emissions

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<tr>
<td></td>
<td>lbs/MWh</td>
<td>MWh</td>
<td>lbs/metric ton</td>
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\(^1\)California Climate Action Registry General Reporting Protocol Version 3.1 April 2009

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<tr>
<th>Source</th>
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Total CO2e = 3,561
ATTACHMENT C: CARB 2015 AND 2020 ESTIMATED EMISSION INVENTORIES
### 2016 SIP EMISSION PROJECTION DATA
#### 2020 Estimated Annual Average Emissions

**KINGS COUNTY**

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

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<th>STATIONARY SOURCES</th>
<th>TOG</th>
<th>ROG</th>
<th>CO</th>
<th>NOX</th>
<th>SOX</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>NH3</th>
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<th>NOX</th>
<th>SOX</th>
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</tbody>
</table>

| GRAND TOTAL FOR KINGS COUNTY                            | 155.3| 21.6| 32.7| 13.0| 0.2 | 45.0| 22.7 | 5.0   | 28.7 |

Start a new query.
2016 SIP EMISSION PROJECTION DATA
2015 Estimated Annual Average Emissions

KINGS COUNTY
All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.

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<th>STATIONARY SOURCES</th>
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<th>CO</th>
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<th>SOX</th>
<th>PM10</th>
<th>PM2.5</th>
<th>NH3</th>
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<td>0.0</td>
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<td>-</td>
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<th>CO</th>
<th>NOX</th>
<th>SOX</th>
<th>PM10</th>
<th>PM2.5</th>
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<th>CO</th>
<th>NOX</th>
<th>SOX</th>
<th>PM10</th>
<th>PM2.5</th>
<th>NH3</th>
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<td>ON-ROAD MOTOR VEHICLES</td>
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<td>47.0</td>
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Start a new query.
# 2016 SIP Emission Projection Data

## 2020 Estimated Annual Average Emissions

**San Joaquin Valley Air Basin**

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

Start a new query.

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<tr>
<th>STATIONARY SOURCES</th>
<th>TOG</th>
<th>ROG</th>
<th>CO</th>
<th>NOX</th>
<th>SOX</th>
<th>PM10</th>
<th>PM2.5</th>
<th>NH3</th>
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</thead>
<tbody>
<tr>
<td>Fuel Combustion</td>
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<td>24.7</td>
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<td>4.6</td>
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<td>CO</td>
<td>NOX</td>
<td>SOX</td>
<td>PM10</td>
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<td>CO</td>
<td>NOX</td>
<td>SOX</td>
<td>PM10</td>
<td>PM2.5</td>
<td>NH3</td>
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<td>7.8</td>
<td>514.0</td>
<td>264.8</td>
<td>59.0</td>
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Start a new query.
### 2016 SIP EMISSION PROJECTION DATA
#### 2012 Estimated Annual Average Emissions

**SAN JOAQUIN VALLEY AIR BASIN**

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

- See detailed information.
- Start a new query.

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<tr>
<th>STATIONARY SOURCES</th>
<th>TOG</th>
<th>ROG</th>
<th>CO</th>
<th>NOX</th>
<th>SOX</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>NH3</th>
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<tbody>
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<td>25.5</td>
<td>31.6</td>
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<td>0.1</td>
<td>9.8</td>
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Start a new query.
Max Prioritization for
Hanford-Lakeside Dairy Digester Cluster (C-2)

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<td>Area Name:</td>
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<tr>
<td>Receptor:</td>
<td>Stack Table Distance</td>
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<thead>
<tr>
<th>Device#</th>
<th>Device Name</th>
<th>Emissions and Potency Method</th>
<th>Despersion Adjustment Method</th>
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<td>Prioritization Scores</td>
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<td>CHRONIC</td>
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<td>2</td>
<td>Clean Biogas</td>
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<td>0.00E+00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Greater Than 2500m</td>
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</tr>
</tbody>
</table>

| Total For Area: | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.22E-02 | 3.74E-02 | 8.71E-02 |

Options Selected:
- 2,500 m Distance Limit
- Remove Pollutants < 1/2 the Applicable Degree of Accuracy
Max Prioritization for Hanford-Lakeside Dairy Digester Cluster (C-2)

**Grouped Facilities:** None

**Area Name:** No Sub-Areas Identified

**Receptor:** Stack Table Distance

**Toxic Device #:** 2

**Device Name:** Clean Biogas

**Receptor Distance (m):** 0

**Greater Than 2500m**

<table>
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<tr>
<th>CAS NUMBER</th>
<th>POLLUTANT NAME</th>
<th>PROID</th>
<th>LBS/YEAR</th>
<th>LBS/HOUR</th>
<th>CANCER</th>
<th>CHRONIC</th>
<th>ACUTE</th>
<th>CANCER</th>
<th>CHRONIC</th>
<th>ACUTE</th>
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<td>9901</td>
<td>Diesel engine exhaust, particulate matt</td>
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<td>0.00E+00</td>
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<td>621647</td>
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<td>1.75E-06</td>
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<td>1319773</td>
<td>Cresols (mixtures of) (Cresylic acid)</td>
<td>2</td>
<td>6.12E-02</td>
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</table>
## Max Prioritization for Hanford-Lakeside Dairy Digester Cluster (C-2)

**Grouped Facilities:** None  
**Area Name:** No Sub-Areas Identified  
**Receptor:** Stack Table Distance

### Options Selected:
- [ ] 2,500 m Distance Limit
- [ ] Remove Pollutants < 1/2 the Applicable Degree of Accuracy

<table>
<thead>
<tr>
<th>Facility ID</th>
<th>Facility Name</th>
<th>Count</th>
<th>Xylenes (mixed)</th>
<th>Sulfur Dioxide</th>
<th>Ammonia</th>
<th>Hydrogen sulfide</th>
<th>Totals For Device 2</th>
<th>Total For Area:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330207</td>
<td>Xylenes (mixed)</td>
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<td>5.92E-02</td>
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</table>

**TOTALS FOR DEVICE 2**  
0.00E+00 0.00E+00 0.00E+00 7.22E-02 3.74E-02 8.71E-02

**Total For Area:**  
0.00E+00 0.00E+00 0.00E+00 7.22E-02 3.74E-02 8.71E-02
### Emissions and Potency Method

**Prioritization Scores**

<table>
<thead>
<tr>
<th></th>
<th>CANCER</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

#### Emission and Potency Method

\[
\text{Cancer Score:} \quad TS(t) = EYR(t) \times URF(t) \times RP \times SHA \times 128
\]

\[
\text{Acute Score:} \quad TS(t) = \left[ \frac{EHR(t)}{AREL(t)} \right] \times RP \times SHA \times 25
\]

\[
\text{Chronic Score:} \quad TS(t) = \left[ \frac{EYR(t)}{CREL(t)} \right] \times RP \times 150 \times SHA \times 2.5
\]

### Dispersion Adjustment Method

**Prioritization Scores**

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<tr>
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<th>CANCER</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>7.22E-02</td>
<td>3.74E-02</td>
<td>8.71E-02</td>
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</tbody>
</table>

#### Dispersion Adjustment Method

\[
\text{Cancer Score:} \quad TS(t) = \text{Total Score}
\]

\[
\text{Acute Score:} \quad TS(t) = \left[ \frac{EHR(t)}{AREL(t)} \right] \times RP \times SHA \times 25
\]

\[
\text{Chronic Score:} \quad TS(t) = \left[ \frac{EYR(t)}{CREL(t)} \right] \times RP \times 150 \times SHA \times 2.5
\]

---

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<thead>
<tr>
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<th>RP</th>
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<tr>
<td>500m &lt; R &lt; 1000m</td>
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<tr>
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<tr>
<td>1500m &lt; R &lt; 2000m</td>
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<tr>
<td>R &gt; 2000m</td>
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**TS** = Total Score

**t** = Specific Toxic Substance

**EYR** = Emissions in lbs / year

**EHR** = Emissions in Maximum lbs / hour for Acute and Average lbs / hour for Chronic

**NF** = Normalization Factor (Cancer = 7700, Acute = 1500, Chronic = 150)

**URF** = Unit Risk Factor

**AREL** = Acute Reference Exposure Level

**CREL** = Chronic Reference Exposure Level

**SHA** = Stack Height Adjustment (< 20m = 60, < 45m = 9, >= 45m = 1)

**RP** = Receptor Proximity Adjustment Factor

**R** = Receptor Distance

**H** = Stack Height

For Stacks 0m <= H < 20m

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<th>RP</th>
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<th>RP</th>
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</thead>
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For Stacks 20m <= H < 45m

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<tr>
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<tr>
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For Stacks - >= H < 45m

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Date: March 28, 2019

Project: Cultural Resource Records Search for Lakeside Pipeline project, Kings County, CA

To: Jaymie Brauer

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#18-158)

Background
This Technical Memo is to provide a cultural record search and to determine whether the proposed project would impact cultural resources.

Project Description
The Hanford-Lakeside Dairy Digester Cluster Project is a dairy biogas collection and biomethane injection project. The biogas collected by this project will come from individual dairy digesters located on up to 18 nearby dairy farms. Each of these digesters will be separately permitted as part of the farming operation and are out of the scope of this application. The project proposes to install a biogas upgrading facility on an approximately 57,750 square foot (1.32 acre) portion of a 3.3-acre parcel (APN #028-080-016), which will host the biogas upgrading and metering equipment (for delivery into the adjacent Southern California Gas Company (SCG) transmission pipeline. References to the project includes both the biogas facility site and the pipeline route.

In addition to the project site, the application covers approximately 37 miles of buried biogas gathering lines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public ROWs. The pipeline route will also bisect several County roads and drainages. Either a jack-and-bore method underneath the roads and drainages or an open cutting of the roads and drainages will be employed in order to install the pipe across these features. All work within the County ROW would be subject to obtaining an encroachment permit or franchise agreement through County Public Works Department.

Project Location
The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California. (Figures 1 and 2). The project also includes approximately 37 miles of buried biogas gathering pipelines connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages. The site is approximately 3.5 miles south east of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016).
The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE ¼ of SE ¼ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet Above Mean Sea Level (Figure 3).

Results

A cultural resources records search (RS# 18-158) was conducted at the Southern San Joaquin Valley Information Center, California State University- Bakersfield, for the Lakeside Pipeline project (180060) in Kings County, CA. The proposed project consists of the Hanford-Lakeside Dairy Digester Cluster of 18 dairies, a dairy biogas collection and biomethane injection site and approximately 37 miles of pipeline alignment located approximately 3.5 miles south east of the City of Hanford and approximately 12 miles west of the City of Tulare(APN #028-080-016).

The records search covered an area within one quarter mile of the biogas site and the pipeline route and included a review of the National Register of Historic Places (NRHP), California Points of Historical Interest, California Registry of Historic Resources (CRHR), California Historical Landmarks, California State Historic Resources Inventory, and a review of cultural resource reports on file.

The records search indicated that three linear cultural resource surveys cross the alignment at right, or at near-right, angles at three separate points (Parr, et al. 1998; Nelson 2000; EBI Consulting 2012). Four additional surveys were conducted immediately adjacent to (though not on) approximately two miles the alignment (Hudlow 2003; Switalski 2007; Patrick 2011; Pacheco-Patrick 2012). No further cultural resource surveys have been performed within a quarter mile of the proposed biogas site or pipeline alignment. No prehistoric cultural resources were noted in the previous surveys.

Three cultural resource properties have been recorded on or within a quarter mile of the proposed pipeline. These include the routes of the historic Burlington Northern and Santa Fe Railway (P-16-120) and Highline Canal (P-16-253). Combined, they cross the pipeline route at four separate points.

The railroad previously was evaluated for significance and found to be ineligible for inclusion in the NRHP due to lack of historical integrity (Love et al. 2001). The Highline Canal (ca. 1930) has been evaluated and found to be ineligible for inclusion in the NRHP or the CRHR (JRP Historical Consulting 1997).
One additional resource close to the alignment is the PG&E Guernsey Substation (P-16-352) at the NW corner of Kent and 11th avenues. The facility was built by the San Joaquin Light and Power Corporation in 1930. The site has previously been evaluated and found ineligible for listing in the NRH Places or California Register of Historic Resources. Nor does it appear to be a historical resource for the purposes of CEQA.

Conclusions

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a 0.5-mile radius of the proposed project, the potential to encounter subsurface cultural resources is minimal. Additionally, construction of the pipeline would be conducted within the existing road rights-of way or private property. The potential to uncover subsurface historical or archaeological deposits is would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction or trenching for underground pipes. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA.

With implementation of Mitigation Measure CUL-01 and CUL-03 as outlined in the draft Initial Study/Mitigated Negative Declaration, potential Project-specific and cumulative impacts related to cultural resources, including historical and archaeological resources, would be considered less-than-significant.

References

EBI Consulting  
2012 Cultural Resources Analysis: Kansas Ave / Ensite #12356 (248221), 16836 12th Avenue, Hanford, Kings County, California 93230, EBI Project No. 61125052. Report submitted to Verizon Wireless, Walnut Creek, CA. (KI-252)

Hudlow, Scott M.  

Love, Bruce, Bai “Tom” Tang and Daniel Ballester  
2001 Historical Resource Compliance Report: The Burlington Northern Santa Fe Railway Company San Joaquin Corridor Capacity Improvements Project, Guernsey (MP 959.34)
Technical Memorandum

To Shirley (MP 974.18), Kings County, California. Report submitted to Caltrans District 6, Fresno, CA.

Nelson, Wendy J.

Pacheco-Patrick, Melinda

Parr, Robert E., Matt DesLauriers and Andres Duque

Patrick, Melinda

JRP Historical Consulting

Switalski, Hubert
ATTACHMENT A
PROJECT FIGURES
APPENDIX C
SAFETY ACTION PLAN
Lakeside Pipeline, LLC

Safety Action Plan

Kings County, CA
January 2019

Prepared For:
Lakeside Pipeline, LLC
Hanford, CA

Prepared By:
Maas Energy Works, Inc.
3711 Meadow View Drive, Redding, CA 96002
Potential Operational Issues

The following are issues that may pose operational risk and have potential for safety concerns. The outlined procedures will ensure the safety of digester/dairy personnel and the public alike.

Blower Failure
In the case of a blower failure, the transportation of biogas from the associated digester will not be possible. Other digesters may still be able to deliver their biogas to the central cleanup facility.

For the associated digester, prolonged downtime will result in a build-up of biogas under the digester cover. If digester pressures increase significantly, the digester will need to be vented to prevent damage to the cover and uncontrolled release of biogas.

High Gas Temperature
High biogas temperatures can damage the integrity of HDPE piping if they exceed 140 degrees Fahrenheit. Furthermore, high temperatures have a significant impact on pipeline pressures. Chillers and heat exchangers must be in good operating condition to prevent high temperature events. In the case of high biogas temperatures, the SCADA system will trigger an alarm and shut down the blowers to prevent heating the pipeline. Remote operators should check the data logs for preliminary troubleshooting and reboot the chilling systems if possible. If remote intervention is unsuccessful, a local operator should perform further troubleshooting to reinstate effective chilling to the biogas to prevent damage to the pipeline integrity.

High Gas Pressure
The blowers are not capable of pressures that would damage any pipeline components and are not anticipated to be an operational issue.

Hazards Management

Methane
Methane (CH₄) composes 50-75% of the biogas contents. It is flammable between 5% and 15% in air and has an ignition temperature of 1,000 degrees Fahrenheit. While not explosive in unconfined spaces, a flammable concentration in an enclosed space can explode when an ignition source is introduced. Methane is buoyant at atmospheric temperatures and disperses rapidly in air, but still poses a risk to human health and safety if released from digesters or pipelines unintentionally. Combustion resulting from the release of methane could result in injury or fatality. It is therefore required that all personnel wear LEL detectors when working in and around digester facilities. Furthermore, periodic pipeline leak detection
surveys are practiced as a layer of protection in addition to the SCADA system to find and pinpoint any possible leaks in the pipeline or digester facilities.

**Hydrogen Sulfide**

Hydrogen Sulfide (H$_2$S) is highly toxic and flammable, and raw biogas can reach concentrations of 4,000 ppm. Cal OSHA has the 8-hour Time Weighted Average exposure limit for H$_2$S set at 10 ppm with a ceiling of 50 ppm. At low concentrations, it can be identifiable by its rotten egg smell, but is known to impair the sense of smell and therefore odor is not a reliable means of determining if it is not present. It is heavier than air and will settle in places with poor ventilation. It is therefore required that all personnel wear H$_2$S detectors with the lower limit set to 10 ppm when working in and around pipeline facilities or near the biogas pipeline. Digester buildings are outfitted with forced ventilation systems and are to be checked for functionality regularly. Furthermore, H$_2$S is to be scrubbed at each digester facility to limit exposure in the case of unintentional release of biogas.

**Pipeline Breach**

The pipeline was constructed with fusion-welded joints and pressure tested during construction to confirm that it was free of leaks. The pipeline is equipped with a SCADA system that monitors pressures and temperatures to warn and protect against any possible leaks. The blowers are also controlled through the SCADA system and limited from over-pressurization and high-biogas-temperature to prevent any mechanical cause of pipeline breach.

It is possible that agricultural activity or another excavation or subterranean activity may cause a breach in the pipeline. In any case where biogas is found to be or suspected of leaking from the pipeline, the following things must be done:

- Notify a Remote Operator
- Turn off all blowers to stop flow of biogas into the pipeline
- Isolate the segment of pipeline in question using the pipeline’s inline valves
- Contact county fire department if necessary to restrict access to the breached area and assist with any required evacuations

Such events will be mitigated through community outreach. Any property owners and operators within 30 feet of the center of pipe will periodically be notified of the pipeline’s existence, location, and potential hazards. The pipeline will also be identifiable by above-ground marker posts at a maximum of 700-foot intervals that include information of its contents and emergency contact info. Tracer wires have been installed to aid in identification pipeline location, and marker tape has been installed to warn excavators of pipeline presence. The pipeline has been registered with the Utility Services Alert system as is legally required prior to any excavation.
Maintenance in Enclosed Spaces

Personnel could encounter safety risks when maintaining equipment in enclosed spaces where biogas can collect such as H₂S scrubbers, moisture knockouts, and blower buildings. Lakeside Pipeline, LLC has minimized this risk by using H₂S scrubbers that are not emptied out by personnel inside of them, but rather are mounted in such a way that media can be gravity drained and installed from the outside of the vessel. Moisture knockouts have been designed to use pressurized moisture recovery systems or simple manual bailing, rather than requiring an operator to enter the trap. The moisture traps contain no interior equipment that could later require maintenance inside the trap. The blower buildings are outfitted with forced ventilation systems that cycle fresh air into the building and any potentially hazardous gasses out. These systems are checked regularly to ensure they are operating properly. Should any enclosed spaces still require entry, the project will employ only personnel trained in enclosed space maintenance, using no fewer than one person per entrant to observe safely in preparation for any necessary rescue procedures.

Emergency Contact Information

In case of any emergency requiring evacuation, immediate medical attention, or firefighting dial 9-1-1.

For operational emergencies and conditions that increase risk to public safety or the safety of personnel, the Remote Operator or 24-hour Operations line should be contacted.

<table>
<thead>
<tr>
<th>Description</th>
<th>Name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Operations</td>
<td>Jordan Leichty</td>
<td>(319) 750-3434</td>
</tr>
<tr>
<td>24-hour</td>
<td>Maas Energy Works</td>
<td>(530) 395-5048</td>
</tr>
<tr>
<td>CEO</td>
<td>Daryl Maas</td>
<td>(210) 527-7631</td>
</tr>
<tr>
<td>Fire Department</td>
<td>Hanford, Kings County</td>
<td>(559) 582-3211</td>
</tr>
</tbody>
</table>
APPENDIX D
MITIGATION MONITORING AND REPORTING PROGRAM
MITIGATION MONITORING AND REPORTING PROGRAM

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Timeframe</th>
<th>Responsible Monitoring Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM AQ-1: During project construction the following measures shall be implemented:</td>
<td>During Construction</td>
<td>Lead Agency</td>
</tr>
</tbody>
</table>

- Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.
- When exposure to dust is unavoidable for workers who will be disturbing the top two-12 inches of soil, provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication “Preventing Work-Related Coccidioidomycosis (Valley Fever).”
- Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever.
- Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms.
- Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in
appropriate diagnosis and treatment.

**MM BIO-1:** Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.

Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

- **Potential Den:** 50-foot radius
- **Known Den:** 100-foot radius
- **Natal/Pupping Den (Occupied and Unoccupied):** Contact USFWS
- **Atypical Den:** 50-foot radius.

Buffer zones shall be considered Environmentally Sensitive Areas (ESAs) and no ground-disturbing activities shall be allowed within a buffer area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) shall be contacted upon the discovery of any natal or pupping dens.

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted

Prior to Construction

Lead Agency
by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (United States Fish and Wildlife Service, 2011).

**MM BIO-2:** Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.

**MM BIO-3:** During all construction-related activities, the following mitigation shall apply:

- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and
removed at least once a week from the construction or project site.

- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.

- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

- 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 four inches or greater that are stored at a construction site for one or more
overnight periods shall 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 shall not be moved until the USFWS 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.

- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
- 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 shall be identified
during the employee education program and their name and telephone number shall be provided to the USFWS.

- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. 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 USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

- All sightings of the San Joaquin 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 shall also be provided to the USFWS at the address below.

- Any project-related information required by the USFWS 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 W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

**MM BIO-4:** All fencing constructed on the project site shall be wildlife friendly. In
order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

**MM BIO-5:** If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

**MM BIO-6:** If construction of the project occurs during Swainson’s hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:

- Protocol nesting surveys for Swainson’s hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the *Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley* (Swainson’s Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between
March 20 and April 20. If no nests are observed, no further action is necessary.

- If active Swainson’s hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.

**MM BIO-7:** If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

**MM BIO-8:** The measures listed below shall be implemented prior to and during construction at the project site, to protect

| Lead Agency Construction | Prior to and during construction |
the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

- All construction activity shall occur during daylight when kangaroo rats are less active;
- A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured, consultation with California Department of Fish and Wildlife is required; and
- During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

**MM BIO-9:** Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.
The following measures shall be implemented, as necessary, in conjunction with the construction of the project:

a) The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.

b) The project proponent shall retain Santa Rosa Rancheria Cultural staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

c) The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique.
archaeological resources under CEQA.

d) If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

e) Prior to any ground disturbance, the project proponent shall offer
the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during construction. Tribal participation would be dependent upon the availability and interest of the Tribe.

f) Upon coordination with the Kings County Community Development Agency, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

**MM CR-2:** In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of the project:

a) Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop in the vicinity of the find and the Kings County Coroner shall be notified immediately. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD). The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to
develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(e) which states that "...the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

b) Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

**MM GEO-1:** Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report shall be submitted to the Lead Agency prior to Construction.
shall be submitted to the Kings County Community Development Agency for review.

**MM GEO-2:** During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2.

**MM HAZ-1:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved
HMBP shall be submitted to the Kings County Community Development Agency.

**MM HAZ-2:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval.

**MM HYD-1:** Prior to ground-disturbing activities, the project proponent shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The SWPPP shall include a site map that shows the construction site perimeter, existing and proposed manmade facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. Additionally, the SWPPP shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting any existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
• Managing waste, aggressively controlling litter, and implementing sediment controls.

A copy of the approved SWPPP shall be submitted to the Kings County Community Development Agency.

**MM TRANS-1:** A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe.

Prior to operation

**MM TRANS-2:** An Operations and Maintenance Program will be developed and followed to inspect and pressure-test the pipeline. Monitoring will occur during construction and on an annual basis during project operations.

During construction and operation

Lead Agency
APPENDIX E
PIPELINE ROUTE DETAIL
KINGS COUNTY PARCEL
APN: 016120034000
160.57 +/- AC

KINGS COUNTY PARCEL
APN: 016120010000
202.18 +/- AC

KINGS COUNTY PARCEL
APN: 016110017000
172.60 +/- AC

KINGS COUNTY PARCEL
APN: 016110018000
170.66 +/- AC

KINGS COUNTY PARCEL
APN: 016110005000
166.40 +/- AC

KINGS COUNTY PARCEL
APN: 016110003000
80.53 +/- AC

KINGS COUNTY PARCEL
APN: 016110002000
75.01 +/- AC

KINGS COUNTY PARCEL
APN: 016110004000
163.19 +/- AC

KINGS COUNTY PARCEL
APN: 016110015000
171.76 +/- AC

KINGS COUNTY PARCEL
APN: 016110010000
184.89 +/- AC

KINGS COUNTY PARCEL
APN: 016110006000
87.34 +/- AC

KINGS COUNTY PARCEL
APN: 016110007000
85.83 +/- AC

KINGS COUNTY PARCEL
APN: 016090006000
164.46 +/- AC

KINGS COUNTY PARCEL
APN: 016090007000
165.51 +/- AC

KINGS COUNTY PARCEL
APN: 016090012000
633.20 +/- AC

KINGS COUNTY PARCEL
APN: 016090005000
109.09 +/- AC

KINGS COUNTY PARCEL
APN: 016080028000
163.13 +/- AC

KINGS COUNTY PARCEL
APN: 016080030000
88.76 +/- AC

### SOURCES
- Esri
- DigitalGlobe
- GeoEye
- Earthstar Geographics
- CNES/Airbus DS
- USDA
- USGS
- AeroGRID
- IGN
- The GIS User Community

LEGEND
- Lakeside Pipeline Alignment
- Lakeside Pipeline Alternate Alignment
- Potential Expansion
- Dairy Injection Point
- Potential Dairy Location
- Dairy Location
- Digester Gas Upgrading Facility
- Digester
- Page Boundary
- County Boundary

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE:
LANDOWNER NAME:
DATE:

MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
FB: FNG.764.KSA
EMAIL: INFO@BIOGASENG.COM

LAKESIDE DIGESTER GAS (DG) UPGRADING FACILITY
15421 7TH AVE, SANFORD, CALIFORNIA-93230

ENGINEER:

E:\GIS Clients\LIQUE Engineers\California\LakesidePipelineData\190702\Lakeside_Pipeline_Sheets.mxd    07/03/19     GIS User
KINGS COUNTY PARCEL
APN: 028220084000
30.82+/- AC

KINGS COUNTY PARCEL
APN: 028220085000
18.64+/- AC

KINGS COUNTY PARCEL
APN: 028220048000
70.07+/- AC

KINGS COUNTY PARCEL
APN: 028220009000
69.25+/- AC

KINGS COUNTY PARCEL
APN: 028220078000
149.65+/- AC

KINGS COUNTY PARCEL
APN: 028220022000
36.97+/- AC

KINGS COUNTY PARCEL
APN: 028220023000
115.22+/- AC

KINGS COUNTY PARCEL
APN: 028220087000
35.00+/- AC

KINGS COUNTY PARCEL
APN: 028220088000
49.87+/- AC

KINGS COUNTY PARCEL
APN: 028220054000
195.79+/- AC

KINGS COUNTY PARCEL
APN: 028220060000
38.32+/- AC

KINGS COUNTY PARCEL
APN: 028220072000
31.97+/- AC

KINGS COUNTY PARCEL
APN: 028206015000
445.73+/- AC

KINGS COUNTY PARCEL
APN: 028206005000
91.71+/- AC

KINGS COUNTY PARCEL
APN: 028202003000
79.77+/- AC

KINGS COUNTY PARCEL
APN: 028202013000
23.84+/- AC

KINGS COUNTY PARCEL
APN: 028202032000
59.04+/- AC

KINGS COUNTY PARCEL
APN: 028202020000
93.57+/- AC

KINGS COUNTY PARCEL
APN: 028202034000
54.40+/- AC

KINGS COUNTY PARCEL
APN: 028205004000
117.50+/- AC

KINGS COUNTY PARCEL
APN: 028205001000
158.24+/- AC

KINGS COUNTY PARCEL
APN: 028201001000
127.82+/- AC

KINGS COUNTY PARCEL
APN: 028202023000
97.19+/- AC

KINGS COUNTY PARCEL
APN: 028202029000
39.90+/- AC

KINGS COUNTY PARCEL
APN: 028202028000
58.34+/- AC

KINGS COUNTY PARCEL
APN: 028201006000
69.25+/- AC

Valadao Dairy
Double L
Cattle
BEFORE THE KINGS COUNTY PLANNING COMMISSION  
COUNTY OF KINGS, STATE OF CALIFORNIA  

IN THE MATTER OF CONDITIONAL USE ) RESOLUTION NO. 19-03  
PERMIT NO. 17-14 ) )  RE: Lakeside Pipeline, LLS )  RE:  15664 7th Avenue, Hanford, CA  

WHEREAS, on December 7, 2017, Lakeside Pipeline, LLC., filed Conditional Use Permit No. 17-14 to establish a biogas upgrading facility and associated gathering pipelines; and

WHEREAS, the application was determined to be complete on June 22, 2019; and

WHEREAS, approval of a conditional use permit constitutes a “lease, permit, license, certificate, or other entitlement for use”, and is therefore a “project” pursuant to the California Environmental Quality Act, Public Resources Code Section 21000, et seq. (“CEQA”) and the CEQA Guidelines, California Code of Regulations Section 15000, et seq.; and

WHEREAS, as the agency primarily responsible for carrying out or approving said Project, the County of Kings assumes the role of lead agency pursuant to CEQA; and

WHEREAS, on July 9, 2019 the County published a notice of intent to adopt a mitigated negative declaration in The Hanford Sentinel and filed said notice with the Kings County Clerk, said notice indicating that the initial study/mitigated negative declaration (“IS/MND”) would be available for public review starting on July 9, 2019 and ending on August 9, 2019, with a hearing of the King County Planning Commission to consider said IS/MND to be held on September 9, 2019; and

WHEREAS, on July 9, 2019, the County provided the IS/MND to the State Clearinghouse for distribution to State agencies for their review beginning July 9, 2019 and ending on August 9, 2019; and

WHEREAS, the Community Development Agency of the County of Kings is the custodian of the documents and other materials that constitute the record of the proceedings upon which the Planning Commission’s decision is based, and the Kings County Government Center, Engineering Building No. 6, 1400 W. Lacey Boulevard, Hanford, CA 93230 is the location of this record; and

WHEREAS, on September 5, 2019 the Kings County Community Development Agency recommended that the Initial Study/Mitigated Negative Declaration be approved for the proposal; and

WHEREAS, on September 5, 2019 the Kings County Community Development Agency staff notified the applicant of the proposed recommendation on this project; and
WHEREAS, on September 9, 2019 this Commission held a duly noticed public hearing to receive testimony from any interested person.

NOW, THEREFORE, BE IT RESOLVED that this Commission finds that in order to approve this permit, the Commission is required to make the following findings pursuant to Section 1707 of the Kings County Development Code:

1. The proposed use is consistent with the General Plan.
2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the California Environmental Quality Act (CEQA).
3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or (b) there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.
4. The proposed conditional use complies with all applicable standards and provisions of this Development Code and the purposes of the district in which the site is located.
5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties, or improvements in the vicinity.
6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.
7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.
8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.
9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

With regard to these required findings, this Commission finds that:

1. The proposed use is consistent with the General Plan.

Finding: The proposal conforms with the policies of the Kings County General Plan, specifically:

A. Figure LU-11 of the 2035 Kings County General Plan designates this site as General Agriculture 20-Acre Minimum.

B. Page LU-13, Section III.A.1. of the “Land Use Element” of the 2035 Kings County General Plan states that agricultural land use designations account for a vast majority of the County’s land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General agriculture 20-Acre Minimum, General Agriculture 40-Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service business. These designations preserve land best suited for agriculture, protect land from premature
conversion, prevent encroachment of incompatible uses, and establish intensity of agricultural uses in manner that remains compatible with other uses within the County. The development of agricultural services and produce processing facilities within the Agricultural areas of the County shall develop to County Standards.

C. Page LU-27, Section IV.B of the “Land Use Element” of the 2035 Kings County General Plan states that Agricultural Open Space is the most extensive environmental category that displays the rural agricultural nature of the county. The agricultural land use designations (Limited Agriculture, General Agriculture 20 Acres, General Agriculture 40 Acres, and Exclusive Agriculture) are used to define distinct areas of agricultural intensity and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station. The physical development of agricultural properties is regulated and implemented by the Zoning Ordinance, in which the zone districts have the same designations: Limited Agriculture (AL-10), General Agriculture (AG-20 and AG-40), and Exclusive Agriculture (AX) are used. The minimum parcel size in the Exclusive Agriculture area is 40 acres. (Note: Zoning Ordinance No. 269.69 was repealed and replaced when Development Code No. 668 was adopted on March 3, 2015, and became effective on April 2, 2015.)

D. Page LU-31, LU Objective B2.3 of the “Land Use Element” of the 2035 Kings County General Plan states increase diversified business opportunities within agricultural areas when they are compatible with agricultural operations.

E. Page LU-32, LU Policy B2.3.1 of the “Land Use Element” of the 2035 Kings County General Plan states value added agriculturally related businesses may be allowed when the business operation is primarily associated with the commercial farming operation. Additional employees may be allowed to work at the business.

2. The approval of the conditional use permit for the proposed use is in compliance with the requirements of the California Environmental Quality Act (CEQA).

Finding: Approval of Conditional Use Permit No. 17-14 (Lakeside Pipeline, LLC) is in compliance with the requirements of the California Environmental Quality Act (CEQA). The proposed use should not be detrimental to public health and safety, or materially injurious to properties in the vicinity. An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for this project. The proposed project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring & Reporting Program (MMRP) attached to the Planning Commission Resolution for this project as Exhibit “A.” The IS/MND reflects the Planning Commission’s independent judgment and analysis.

3. There will be no potential significant negative effects upon environmental quality and natural resources that could not be eliminated or avoided through mitigation or monitoring or there will not be potential significant negative effects upon environmental quality and natural resources that could not be mitigated to the extent feasible, and a Statement of Overriding Considerations is adopted explaining why the benefits of the project outweigh the impacts that cannot be mitigated to a less than significant level.
**Finding:** The IS/MND did not identify any potentially significant environmental effects that cannot be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-02.

4. The proposed conditional use complies with all applicable standards and provisions of the Kings County Development Code and the purposes of the district in which the site is located.

**Finding:** Article 4, Section 407, Table 4-1, lists Biomass energy facilities as a conditional use within the General Agriculture 20-Acre Zoning Districts, subject to Planning Commission approval.

5. The design, location, size and operating characteristics of the proposed conditional use and the conditions under which it would be operated or maintained will not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity.

**Finding:** The proposed use was subject to analysis pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines. An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared and circulated for a 30-day public comment period. With incorporation of mitigation measures, the proposed use will not result in any of the significant effects which are objectionable or detrimental to the public health, safety, or welfare, or materially injurious to other permitted uses, properties or improvements in the vicinity. In addition to mitigation measures adopted as part of the Mitigation Monitoring & Reporting Program (MMRP), other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance.

6. That no process, equipment or materials shall be used which, are found by the Planning Commission, to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.

**Finding:** The proposed facility will not be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion. This project proposes to install a biogas upgrading facility on an approximately 57,754 square foot portion (134 square feet by 431 square feet) of a 3.3-acre parcel (APN 028-080-016). The upgrading facility will consist of moisture removal, hydrogen sulfide (H2S) scrubbing, carbon dioxide (CO2) stripping, and biomethane compressors. Approximately 37 miles of low-pressure High-Density Poly Ethylene (HDPE) biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies. An interconnection and injection point will be connected to the existing Southern California Gas (SCG) pipeline SL 38-523. The equipment necessary for this is referred to as the Meter Set Assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The Initial Study/Mitigated Negative Declaration (IS/MND) did not identify any potentially significant environmental effects that can not be mitigated to a less-than-significant level. The Mitigation Monitoring & Reporting...
Draft Resolution

Program (MMRP) identifies specific project impacts, how they will be mitigated, and which entity is responsible for ensuring their completion. The MMRP is included as Exhibit “A” to Resolution No. 19-03. Other conditions of approval, including implementation of zoning, public works, public health, and engineering and design standards will ensure that operation of the proposed use is not a nuisance. Parking areas and driveways will be surfaced and maintained per County standards (see Planning Division Requirement No. 7-9 below). Lighting will be oriented and/or shielded to the interior of the site to prevent spillage onto nearby properties and rights-of-way. The combination of site design, mitigation measures, and other conditions of approval will result in minimization or elimination of injurious effects. The proposed use will be designed pursuant to the California Fire Code to ensure that the use does not involve undue risk of fire or explosion.

7. That no waste material shall be discharged into a public or private sewage disposal system except in compliance with the regulations of the owner of the system.

Finding: The proposed project will include the installation of onsite septic system facilities in compliance with the California Building Code and Kings County Plumbing Code (Ordinance No. 567.4 Section 5-82) to accommodate biogas upgrading facility. The system shall be designed by a qualified engineer (see Building Division Requirement No. 13 below).

8. That all uses shall comply with the emission standards of the San Joaquin Valley Air Pollution Control District.

Finding: This project as described in the IS/MND, will be required to comply with all applicable regulations of the SJVAPCD, including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review). The construction resulting from this project could temporarily increase emissions of PM10 and thus a condition of approval will require that the project shall comply with SJVUAPCD Regulation VIII.

9. The site plan includes all applicable information as described in Article 16, Section 1602.A.5.

Finding: The site plan meets all of the criteria required by Section 1602.A.5, such that the locations, sizes, and functions of all proposed features can be ascertained.

STATEMENT OF FINDINGS OF CONSISTENCY:

1. LAND CONSERVATION (WILLIAMSON) ACT FINDINGS:

A. The biogas facility site itself is not subject to a Williamson Act contract. However, the gathering pipeline route goes through several properties owned by the participating dairies, and several of these are subject to a land use contract. The Uniform Rules for Agricultural Preserves in Kings County state that during the term of the contract, the only uses permitted upon the land shall be Commercial Agricultural Uses and Compatible Uses. Section A.3.d of the Uniform Rules for Agricultural Preserves in Kings County lists operation of dairies as a Commercial Agricultural Use. In addition, Section A.3.g. of the Uniform Rules for Agricultural Preserves in Kings County lists accessory structures and uses incidental to the operation of dairies as a Commercial Agricultural Use. The project would not conflict with the existing zoning for agricultural land use or a Williamson Act contract and future expansion of the proposed
pipeline to other dairies would not result in conflict with existing zoning for agricultural land use or a Williamson Act contract.

2. FLOOD PLAIN FINDINGS:

A. The site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0375C, dated June 16, 2009. There are no development restrictions associated with Area of Minimal Flood Hazard Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

3. AIRPORT COMPATIBILITY ZONE FINDINGS:

A. The project site is not located within an Airport Compatibility Zone.

BE IT FURTHER RESOLVED, that based on the above findings, this Commission adopts the Initial Study/Mitigated Negative Declaration prepared for Conditional Use Permit No. 17-14 and approves Conditional Use Permit No. 17-14 as proposed, subject to the conditions and exceptions as follows:

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY – PLANNING DIVISION Contact Chuck Kinney of the Kings County Community Development Agency – Planning Division at (559) 852-2674 regarding the following requirements:

1. All proposals of the applicant shall be conditions of approval if not mentioned herein.

2. The site plan for the project is approved in concept. However, it is understood that during the actual design of the project that either of the following minor alterations to the site plan may be necessary: 1) structural alterations; and/or 2) alterations to the location of structures. Any minor alterations shall comply with the following requirements:

   A. The site shall be developed in substantial compliance with the conceptually-approved site plan. Development of the site shall be considered substantially consistent with the approved conceptual site plan if any minor structural alteration is within ten (10) percent of the square footage shown on the conceptually approved site plan or up to a 2,500-square-foot increase in structural size, whichever is less, and the minor structural alteration complies with coverage standards.

   B. A minor alteration of the location of a structure shall be considered substantially consistent with the approved conceptual site plan if the new location of the structure complies with all setback requirements for the zone district that the project site is located in.

   C. Any minor alteration that would make it necessary to modify or change any condition of approval placed on the project would require resubmittal of the application to amend the approval of the Site Plan Review.

   D. No expansion of use, regardless of size, which would increase the projected scale of operations beyond the scope and nature described in this Conditional Use Permit application, will be allowed. Any expansion that is a substantial change from the conceptually-approved site plan will require either an amendment to the approved Conditional Use Permit or a new zoning permit.
3. The development shall comply with all regulations of Development Code No. 668.13, with particular reference to the General Agricultural (AG-20) Zone District standards contained in Article 4.

4. All signage must comply with Section 418.C of the Kings County Development Code. Signs shall be located outside of the public right-of-way and shall not be located within a traffic safety visibility area if over three (3) feet in height. Unless a different setback is specified for a particular zone district, the minimum setback distance for all signs over three (3) feet in height shall be ten (10) feet from property lines.

5. Any exterior lighting shall be hooded so as to be directed only on-site. Pursuant to Section 418.E of the Kings County Development Code, exterior lighting shall be designed to be compatible with the architectural and landscape design of the project.
   
   A. All new proposed uses shall preserve the existing nighttime environment by ensuring that the outdoor lighting for the use is so arranged and/or hooded as to reflect light away from adjoining properties.
   
   B. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses, and shall be hooded, shielded, and located to direct light pools downward and prevent glare.
   
   C. To achieve the desired lighting level for parking and pedestrian areas, the use of more short, low intensity fixtures is encouraged over the use of a few tall fixtures that illuminate large areas.

6. Pursuant to Section 418.F of the Kings County Development Code, all property owners and residents in Kings County are highly encouraged to participate in resource conservation efforts to help preserve and conserve dwindling natural resources. All property owners proposing new development within the agricultural zoning districts are encouraged to implement the following resource conservation measures, as applicable, as part of their development proposals.
   
   A. Water Meters: The installation of water meters to encourage water conservation.
   
   B. Stormwater Drainage: The integration of onsite stormwater drainage features such as small catch basins, rain gardens, and landscape depression basins into site plans to increase the stormwater detention.
   
   C. Drought Tolerant Landscaping: The integration of drought tolerant landscaping and conservation fixtures with the structures to reduce the average per capita water use.

7. Parking shall be provided in accordance with Article 13, Table 13-1 of the Kings County Development Code and shall be installed in accordance with Kings County Improvement Standards. (Note: Accessible parking requirements are listed under Building Division Requirement Nos. 8 and 9 below.)

8. All drive approaches, parking areas, aisles, and driveways shall be provided prior to either: 1) initial occupancy of the site; or 2) the final inspection.
9. Pursuant to Section 303.G of the *Kings County Improvement Standards* all parking areas, aisles, and driveways shall be surfaced and maintained so as to provide a durable, dustless surface. Section 303.G and Drawing 3036 of the *Kings County Improvement Standards* requires two (2) inches of Type “B” Asphalt Concrete over four (4) inches of Class 2 aggregate base over six (6) inches of R-50 Native @ 95% compaction under the “Heavy Use conditions”.

10. Accessible parking spaces shall be located so as to minimize the travel distance to the use's primary entrances for access. Required off street accessible parking spaces, and standards for those spaces, shall meet state standards.

11. Pursuant to Article 4, Section 418.B.5 of the *Kings County Development Code* the following are required for landscaping in Agricultural Zoning District:

   A. In all Agricultural Zoning Districts, as stated in Article 15, all new construction and rehabilitated landscape projects installed after January 1, 2010 are subject to and shall comply with the “California Model Water Efficient Landscape Ordinance”.

12. Pursuant to Section 418.B of the *Kings County Development Code*, the project shall comply with the following requirements pertaining to fencing and gates:

   **Fences, Walls, and Hedges** exceeding six feet in height shall be permitted except that fences, walls, and hedges shall not exceed three feet in height within a Traffic Safety Visibility Area as defined in Article 25 of this Development Code.

   **Gates** shall be permitted as follows:

   A. Gates which are used for the primary vehicular ingress and egress and which are opened and closed manually shall be setback so that the greater of the following distances are met from the property line being used for access:

      1) A minimum distance of 20 feet.

      2) A distance sufficient to ensure that vehicles used for a permitted use requiring a Site Plan Review or Conditional Use permit are able to pull completely onto their property.

   B. Gates used for the primary vehicular ingress and egress and which are opened and closed electronically with a remote control may be located within any portion of the property being used for access to a driveway provided that:

      1) The property owner/occupant shall obtain a building permit from the building department for the installation of the electric gate operating mechanism and wiring. The property owner/occupant must also request and obtain a final inspection for the assigned building permit and demonstrate operation of the mechanism using the remote.

      2) The gate must be operational at all times using a remote control device that allows the property owner/occupant to open and close the gate to enter the driveway area without exiting the vehicle.
3) At any time that the gate is not operational using the remote control device the gate must either be locked in the open position or it must be removed entirely.

C. Access gates to property which are not the primary vehicular ingress and egress such as an access gate to a rear yard to allow the parking of an RV, boat or similar use or for equipment access to be used in maintenance of the property do not require additional setback from the property line. Secondary access gates shall have locking mechanisms accessible only from the interior side of the gate.

13. All open and unlandscaped portions of the lot shall be maintained in good condition, free from weeds, dust, trash and debris.

14. The minimum yard requirements from property line to a structure shall be as follows:

   A. The minimum front yard setback for occupied structures shall be not less than fifty (50) feet from the public road right-of-way line or the property line if not fronting on a public road right-of-way. The minimum front yard setback for non-occupied uses shall be not less than thirty-five (35) feet from the public road right-of-way or property line if not fronting on a public road right-of-way.

   B. The minimum side yard setback shall be ten (10) feet from the side property line for interior sites. The minimum side yard setback shall be twenty (20) feet from the public road right-of-way line on the street side of a corner site.

   C. The minimum rear yard setback shall be ten (10) feet from the rear property line.

15. The minimum distance between structures shall be ten (10) feet.

16. All mitigation measures in the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Plan that pertains to CUP No. 17-14 are adopted as conditions of this approval, and included in the Conditional Use Permit.

17. The applicant shall comply with all requirements of, and obtain any necessary permits from, the San Joaquin Valley Air Pollution Control District (SJVAPCD). Questions concerning SJVAPCD requirements should be direct to Georgia Stewart at (559) 230-5937.

18. The applicant shall comply with all requirements of, and obtain any necessary permits from, the California Regional Water Quality Control Board (CRWQCB). Questions concerning CRWQCB requirements should be directed to David Sholes at (559) 445-6279.

19. The applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and Department of Environmental Health Services, and all other local and state regulatory agencies.

20. Pursuant to Section 14-38(d) of the Kings County Code of Ordinances, a “Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings” shall be signed, notarized, and recorded.
21. Pursuant to Section 66020(d)(1) of the *California Government Code*, the owner is hereby notified that the 90-day approval period in which the applicant may protest the imposition of fees, dedications, reservations, or other exactions, begins on the date that this resolution is adopted.

22. Sales, use, or transactions tax may apply to business activities on the site. The applicant may seek written advice regarding the application of tax to your particular business by writing to the nearest State Board of Equalization office. For general information, please call the Board of Equalization at 1-800-400-7115.

23. Within eight (8) days following the date of the decision of the Kings County Planning Commission, the decision may be appealed to the Kings County Board of Supervisors. The appeal shall be filed with the Clerk of the Board of Supervisors.

24. This Conditional Use Permit shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) years the proposed use has been established. A Conditional Use Permit involving construction shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) year a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application.

25. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit’s expiration date.

26. This approved conditional use permit shall run with the land and shall continue to be valid upon change of ownership of the site which was the subject of the Conditional Use Permit approval.

27. This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

**BE IT FURTHER RESOLVED** that the following departments’ and agencies’ have listed requirements, standards, and regulations that must be met under those departments’ and agencies’ jurisdiction. The Planning Commission has no authority to modify, amend, or delete any of these requirements, standards, and regulations, but lists them here as information to the applicant. Appeals for relief of these standards and regulations must be made through that department’s or agency’s procedures, not through the Development Code procedures. However, failure of the applicant to comply with these other departments’ and agencies’ requirements, standards, and regulations is a violation of this Conditional Use Permit and could result in revocation of this Conditional Use Permit.

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - BUILDING DIVISION** Contact Darren Verdegaal at the Kings County Community Development Agency - Building Division at (559) 852-2683, regarding the following requirements:

1. Building permits must be obtained from the Building Division of the Kings County Community Development Agency for any structures, plumbing, electrical, or mechanical work.
2. Failure to obtain a building permit for any structure, prior to commencing construction, which requires a building permit, will result in the payment of a double fee. Payment of such double fee shall not relieve any person from fully complying with the requirements of Kings County Code of Ordinances, Chapter 5 in the execution of the work or from any other penalties prescribed therein.

3. A minimum of two (2) sets of plans and calculations signed by an architect or engineer licensed to practice in the State of California shall be required for all structures.

4. All special inspection reports shall be provided to the Building Division prior to requesting a final inspection.

5. The applicant is responsible for contacting the Building Division to request a final inspection of the structures prior to occupying the structures and prior to startup of the operation. No building or structure shall be used or occupied until the Building Division has issued a Certificate of Occupancy.

6. All drive approaches and durable dustless surfaces shall be installed prior to the final inspection and maintained as per County Standards.

7. An accessible restroom shall be provided and shall comply with Section 1115B of the California Building Code.

8. Pursuant to Section 1129B of the California Building Code, one (1) van accessible parking space, allowing room for individuals in wheelchairs, on braces or crutches to get in and out of an automobile onto a level surface, suitable for wheeling and walking shall be provided. The parking space shall be 9 feet x 20 feet with an 8-foot wide loading and unloading aisle placed on the side opposite the driver’s side. The surfacing of the parking space, loading and unloading aisle and the accessible path from the space to the entrance of the building shall be either asphalt concrete or concrete.

9. The development shall comply with all applicable Americans with Disabilities Act (ADA) requirements, especially Section 1127B of the California Building Code, which states that site development and grading shall be designed to provide access to all entrances and exterior ground-floor exits, and access to normal paths of travel. The accessible route of travel shall be the most practical direct route between accessible building entrances, accessible site facilities and the accessible entrance to the site, including but not limited to access from the accessible parking space to accessible building entrances.

10. A soils report, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

11. The facility shall meet the requirements of the State of California Model Water Efficient Landscape Ordinance. Landscape and irrigation plans shall be provided to the Community Development Agency for review and approval prior to building permit issuance.

12. All construction shall conform to the latest adopted edition of the California Building Standards Code which consists of the California Building Code, California Electrical Code, California

13. A septic system design, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

14. School fees based on square footage of building shall be added to the cost of the building permit, unless the school district provides an exemption from the school fees.

15. The site, as well as the buildings, shall be made accessible and usable by the disabled according to the California Building Code Chapter 11B.

16. The tenant, lessee and/or owner are responsible for compliance with the Americans with Disabilities Act, ADA. By federal law, the facility shall be made accessible to the highest degree possible.

17. Public Facilities Impact Fees for the building shall be payable at the time of the issuance of the building permit.

KINGS COUNTY PUBLIC WORKS DEPARTMENT  Contact Mike Hawkins of the Kings County Public Works Department at (559) 852-2708 regarding the following requirements:

1. All requirements required hereafter shall conform to the Kings County Improvement Standards.

2. All other alternatives to Public Works requirements must be approved by the Kings County Public Works Department.

3. That access to the site from a public road must be provided, and must be approved by the Kings County Public Works Department.

4. The applicant shall obtain an encroachment permit from the Kings County Public Works Department.

5. Drive approaches shall be constructed in accordance with Section 205 of the Kings County Improvement Standards and shall be asphalt concrete.

6. Durable and dustless surfacing shall be constructed for all roads constructed on site.

7. Fencing shall be placed outside of the County right-of-way not closer than 1 foot to the right of way line.

8. The owner shall dedicate an additional five (5) feet of right-of-way along 7th Avenue to a total half width of thirty (30) feet.

9. Gates at access points shall be indented per the Kings County Development Code.

10. Applicant/Owner shall maintain fence line and adjacent County road shoulder in a weed free condition.
11. All drainage shall be contained on-site in accordance with Section 404-C. Finished grade shall not slope towards 7th Avenue.

12. Drive approach shall be constructed so as storm drainage shall flow towards property.

13. Any installation of Biogas Gathering lines within the County Right-Of-Way shall require a County Encroachment permit approved by the County Board of Supervisors. This Encroachment Permit application shall be filed with the County Public Works Department.

KINGS COUNTY FIRE DEPARTMENT Contact Rick Levy of the Kings County Fire Department at (559) 852-2885 regarding the following requirements:

1. Any fire suppression systems will need to meet all applicable State and Kings County Fire Department requirements.

2. The fire protection system, including fixed and portable extinguishing systems must be up to date on required annual fire inspections and tests and be approved by the Kings County Fire Department.

3. Four-inch reflective address numbers at the main street side entrance shall be installed pursuant to Section 505.1 of the California Fire Code.

4. Where gates are provided, a means of Fire Department entry shall be provided. Manual gates shall have a Fire Department Knox key lock provided. Powered gates shall be provided with a Fire Department Knox access override system. Gates shall open inward and gate entrances shall be 4 feet wider than the lane serving the gate and be located a minimum of 30 feet from the roadway to allow a vehicle to stop without obstructing traffic. A Knox pad lock shall be placed on chained gates or Knox box with gate access keys mounted at the main entrance for Fire Department access.

5. Employees shall be familiar with the use of fire safety equipment.

6. The biogas facility shall be kept clear of combustible weeds and debris.

7. All plans shall comply with the California Fire Code and all regulations of the Kings County Fire Department.

8. Any future development must comply with applicable Fire Code, including rural firefighting water supply requirements.

9. No structure shall be located farther than 150 feet from fire apparatus access. Access roads and adequate turnaround provisions shall be provided if fire apparatus access distance is exceeded.

10. Fire Department reserves the right to amend existing comments or requirements or add additional comments or requirements depending upon the hazards involved with the project.
KINGS COUNTY HEALTH DEPARTMENT Contact Troy Hommerding of the Kings County Department of Environmental Health Services at (559) 852-2627 regarding the following requirements:

1. Coccidioides immiti, the fungus that causes valley fever, a serious and potentially long-term respiratory illness, is endemic in the soils of Kings County. Construction activities that disturb soils containing the spores of the fungus can put workers and the nearby public at risk. Effective dust control must be maintained on the job site at all times in order to reduce the risk of valley fever to workers and nearby residents. More information regarding the prevention of work related valley fever is available at https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/ValleyFeverFactSheet.pdf Contact the San Joaquin Valley Air Pollution Control District for more information on dust control techniques.

2. If hazardous materials at or above threshold reporting quantities (55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas) will be kept on site, the facility must file a Hazardous Materials Business Plan online at http://cers.calepa.ca.gov within 30 days of beginning operations. Hazardous materials are broadly defined, and include fuel, lubricants, antifreeze, motor vehicle batteries, welding gases, paints, solvents, glues, agricultural chemicals, etc. Please contact our office if you require assistance with the online registration process.

3. If the construction will include any new onsite sewage disposal system, then three copies of construction plans for the septic system, including percolation test results, must be provided to our office for review and approval prior to construction. A plan check application form is available at our website: https://www.countyofkings.com/departments/health-welfare/environmental-health-services-1

4. Any plumbing fixtures, such as hand wash sinks, used by employees for personal use must have bacteriologically safe water. Sinks should be limited to handwashing only and should be posted with signage indicating that the water is suitable for washing and general cleaning, but not recommended for drinking. Bottled water or other potable source must be provided for drinking. If drinking water will be provided to 25 employees or more for 60 days or more over a calendar year, then the facility may require a public water system permit from our office.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT: Contact Georgia Stewart of the SJVAPCD at (559) 230-5800 concerning the following requirements.

1. The applicant shall comply with all San Joaquin Valley Air Pollution Control District regulations including but not limited to Rules 8011 through 8081 (Fugitive Dust Prohibitions) and Rule 9510 (Indirect Source Review) and Regulation VIII.
Draft Resolution

The foregoing Resolution was adopted on a motion by Commissioner ____________ and seconded by Commissioner ____________, at a regular meeting held on September 9, 2019, by the following vote:

AYES:  COMMISSIONERS
NOES:  COMMISSIONERS
ABSTAIN: COMMISSIONERS
ABSENT: COMMISSIONERS

KINGS COUNTY PLANNING COMMISSION

________________________
Riley Jones, Chairperson

WITNESS, my hand this ____ day of _________, 2019.

________________________
Gregory R. Gatzka
Secretary to the Commission

Exhibit A: Mitigation Monitoring & Reporting Program (MMRP)

cc: Kings County Board of Supervisors
Kings County Counsel
Kings County Community Development Agency – Building Division
Kings County Fire Department
Kings County Public Works Department
Kings County Health Department, Division of Environmental Health Services
<table>
<thead>
<tr>
<th>Impact No.</th>
<th>Mitigation Measure</th>
<th>Implementation</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td><strong>MM AQ-1:</strong> During project construction the following measures shall be implemented:</td>
<td>Project Contractor/Operator</td>
<td>Kings County Inspector</td>
</tr>
<tr>
<td>3.4.3-c</td>
<td>• Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.</td>
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<tr>
<td></td>
<td>• When exposure to dust is unavoidable for workers who will be disturbing the top two-12 inches of soil, provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication “Preventing Work-Related Coccidioidomycosis (Valley Fever).”</td>
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<tr>
<td></td>
<td>• Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever.</td>
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<td></td>
<td>• Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms.</td>
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<tr>
<td></td>
<td>• Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment.</td>
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</tr>
</tbody>
</table>
**Biological Resources**

3.4.4-a **MM BIO-1:** Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction.

The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.

Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

<table>
<thead>
<tr>
<th>Den Type</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Den</td>
<td>50-foot radius</td>
</tr>
<tr>
<td>Known Den</td>
<td>100-foot radius</td>
</tr>
<tr>
<td>Natal/Pupping Den (Occupied and Unoccupied)</td>
<td>Contact U.S. Fish and Wildlife Service for guidance</td>
</tr>
<tr>
<td>Atypical Den</td>
<td>50-foot radius</td>
</tr>
</tbody>
</table>

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or
During Ground Disturbance (United States Fish and Wildlife Service, 2011).

**MM BIO-2:** Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.

**MM BIO-3:** During all construction-related activities, the following mitigation shall apply:

- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.
- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking...
areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.

- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

- 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 four inches or greater that are stored at a construction site for one or more overnight periods shall 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 shall not be moved until the USFWS 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.

- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.

- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

- 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 shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. 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 USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

- All sightings of the San Joaquin 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 shall also be provided to the USFWS at the address below.

- Any project-related information required by the USFWS 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 W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

**MM BIO-4:** All fencing constructed on the project site shall be wildlife friendly. In order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

**MM BIO-5:** If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any
nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

**MM BIO-6:** If construction of the project occurs during Swainson’s hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:

Protocol nesting surveys for Swainson’s hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the *Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley* (Swainson’s Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between March 20 and April 20. If no nests are observed, no further action is necessary.

If active Swainson’s hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.
**MM BIO-7:** If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

**MM BIO-8:** The measures listed below shall be implemented prior to and during construction at the project site, to protect the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

All construction activity shall occur during daylight when kangaroo rats are less active;

A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured,
consultation with California Department of Fish and Wildlife is required; and

During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

3.4.4-c **MM BIO-9:** Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.

### Cultural Resources

<table>
<thead>
<tr>
<th>3.4.5-a</th>
<th><strong>MM CR-1:</strong> The following measures shall be implemented, as necessary, in conjunction with the construction of the project</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Project Contractor/Operator: Kings County Community Development Agency</td>
</tr>
<tr>
<td>a)</td>
<td>The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.</td>
</tr>
<tr>
<td>b)</td>
<td>The project proponent shall retain Santa Rosa Rancheria Cultural staff to provide a pre-construction Cultural Sensitivity Training to construction staff</td>
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Project Contractor/Operator: Kings County Community Development Agency

Inspector: Kings County Community Development Agency

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Hanford-Lakeside Dairy Digester Cluster Project

September 9 2019

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regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

c) The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

d) If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings
County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

e) Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during construction. Tribal participation would be dependent upon the availability and interest of the Tribe.

f) Upon coordination with the Kings County Community Development Agency, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

3.4.5-c **MM CR-2** In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of Hanford Lakeside Dairy Digester Project>
a) Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop in the vicinity of the find and the Kings County Coroner shall be notified immediately. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD). The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(e) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

b) Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant,
the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

### Geology and Soils

| 3.4.7-d | **MM GEO-1:** Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report shall be submitted to the Kings County Community Development Agency for review. | Project Contractor/Operator | Kings County Community Development Agency |
| 3.4.7-f | **MM GEO-2:** During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2. | Project Contractor/Operator | Kings County Inspector |
## Hazards and Hazardous Materials

<table>
<thead>
<tr>
<th>3.4.9-a</th>
<th><strong>MM HAZ-1:</strong> Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved HMBP shall be submitted to the Kings County Community Development Agency.</th>
<th>Project Contractor/Operator</th>
<th>Kings County Community Development Agency</th>
</tr>
</thead>
</table>

**3.4.9-b** **MM HAZ-2:** Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval. | Kings County Community Development Agency | Kings County Environmental Health Services |

## Hydrology and Water Quality

| 3.4.10-a | **MM HYD-1:** Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:  
- Stockpiling and disposing of demolition debris, concrete, and soil properly. | Project Contractor/Operator | Kings County Community Development Agency |
| --- | --- | --- | --- |
- Protecting existing storm drain inlets and stabilizing disturbed areas.
- Implementing erosion controls.
- Properly managing construction materials.
- Managing waste, aggressively controlling litter, and implementing sediment controls.

### Transportation and Traffic

| 3.4.17-c | **MM TRANS-1**: A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe. |

**MM TRANS-2**: An Operations and Maintenance Program will be developed and followed to inspect and pressure-test the pipeline. Monitoring will occur during construction and on an annual basis during project operations.