KINGS COUNTY PLANNING COMMISSION

Regular Meeting
7:00 P.M.

Government Center
Hanford, California

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Community Development Agency at (559) 852-2680 by 4:00 p.m. on the Thursday prior to this meeting. Agenda backup information and any public records provided to the Commission after the posting of the agenda for this meeting will be available for public review at the Kings County Community Development Agency, Building No. 6, Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California.

AGENDA
September 12, 2016

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**
2. **SUMMARY OF THE AGENDA** - Staff
3. **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.
4. **APPROVAL OF MINUTES - Meeting of July 11, 2016.**

II. OLD BUSINESS None

III. CONVENE AS DIVISION TWO OF THE KINGS COUNTY ADVISORY AGENCY

IV. NEW BUSINESS

1. **EXTENSION OF TIME FOR TENTATIVE TRACT NO. 852 (SMS FINANCIAL, LLC)** – A request for a three (3) year extension of time for Tentative Tract No. 852 for a division of 50.15 acres into 39 lots, including single-family dwellings to be constructed on each lot, located at 8606 14th Avenue, Hanford, Assessor's Parcel Number 005-030-013.

   A. Staff Report
   B. Public Hearing
   C. Decision

V. RECONVENE AS THE KINGS COUNTY PLANNING COMMISSION

VI. NEW BUSINESS

1. **CHANGE OF ZONE DISTRICT BOUNDARIES 16-01 (KINGS COUNTY)** - A proposal of various change of zone district boundaries to achieve the objectives of the Kings County Development Code and consistency with the 2035 Kings County General Plan as follows:

   Home Garden Area - A proposal for the change of zone district boundaries from the current Service Commercial (CS) zoning designation to the Neighborhood Commercial (CN) zoning designation for Assessor Parcel Number 016-171-010.

   Stratford Area - A proposal for the change of zone district boundaries from the current Natural Resource Conservation (NRC) zoning designation to the Limited Agriculture 10 (AL-10) zoning designation for Assessor Parcel Number 026-132-011.

   Kettleman City Area - A proposal for the change of zone district boundaries from the current Transitional Use (T) and Rural Commercial (CR) zoning designations to the Public Facilities (PF) zoning designation for Assessor Parcel Number 042-137-013

   A. Staff Report
   B. Public Hearing
   C. Decision

2. **CONDITIONAL USE PERMIT NO. 15-03 (JAVA SOLAR, LLC)** – A proposal to establish a 15-megawatt (MW) alternating current (AC) photovoltaic (PV) solar generating farm, access driveways, electrical interconnection, and project substation on approximately 96 acres of agricultural lands in unincorporated Kings County, California, located at 16741 20th Avenue (State Route 41), Lemoore, CA, Assessor's Parcel Numbers 024-170-010 and 011.

   A. Staff Report
   B. Public Hearing
   C. Decision

VII. MISCELLANEOUS

1. **FUTURE MEETINGS** - The next regular meeting of the Planning Commission is scheduled for Monday, October 3, 2016.
2. **CORRESPONDENCE**
3. **STAFF COMMENTS**
4. **COMMISSION COMMENTS**

VIII. ADJOURNMENT

NOTICE OF RIGHT TO APPEAL: For projects where the Planning Commission's action is final, actions are subject to appeal by the applicant or any other directly affected person or party and no development proposed by the application may be authorized until the final date of the appeal period. An appeal may be filed with the Community Development Agency at 1400 W. Lacey Blvd., Building #6, Hanford, CA, on forms available at the Community Development Agency. A filing fee of $320.00 must accompany the appeal form. The appeal must be filed within 8 days of the Planning Commission's decision date, not including the date of the decision. If no appeal is received, the Planning Commission's action is final. There is no right of appeal for projects for which the Planning Commission's action is advisory to the Board of Supervisors.

KINGS COUNTY PLANNING COMMISSION
MINUTES

District 1 Commissioner – Riley Jones* District 2 Commissioner – Lupe Chavez
District 3 Commissioner – R.G. Trapnell** District 4 Commissioner – Jim Gregory
District 5 Commissioner – Steven Dias
*Chairman **Vice-Chairman

July 11, 2016

CALL TO ORDER: The meeting of the Kings County Planning Commission was called to order by Chairman Trapnell, on July 11, 2016, 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: R.G. Trapnell, Jim Gregory, Riley Jones, Lupe Chavez

COMMISSIONERS ABSENT: Steven Dias

STAFF PRESENT: Erik Kaeding – County Counsel, Chuck Kinney – Deputy Director – Planning, Terri Yarbrough – Executive Secretary, Dan Kassik - Planner

VISITORS PRESENT: Dan Caetano

SUMMARY OF THE AGENDA: Mr. Kinney summarized the agenda for the Commission.

UNSCHEDULED APPEARANCES: None

APPROVAL OF MINUTES: A motion was made and seconded (Jones/Gregory) to approve the minutes of the June 6, 2016 meeting. Motion carried unanimously with Chavez abstaining and Dias absent.

OLD BUSINESS: None

NEW BUSINESS:

1. **Conditional Use Permit No. 16-02 (Caetano Riding Academy)**
   Mr. Kassik provided an overview of a proposal to establish a riding academy for training horses and riders for riding and roping events such as barrel racing, cutting, calf roping, team roping, etc., located at 16484 Idaho Avenue, Lemoore. The riding academy will have three employees and a maximum of 35 horses at one given time, 50 head of working/lesson cattle, four arenas, sorting pens, three horse barns, and a hay barn. A future phase will include a shop, hay barn, and mobile home. The project is located within an agricultural preserve and is a compatible use. Commissioner Jones asked if the property was located closer to 16th Avenue or 17th Avenue. Mr. Kassik stated it was about equal. Chairman Trapnell asked about safety services. Mr. Caetano addressed the question. Commissioner Jones also asked if the seven parking spaces would be enough. Mr. Kassik stated the number of spaces is designated by the Development Code. There are 3 employees and four clients at any given time, requiring seven parking spaces.

   A motion was made and seconded (Jones/Gregory) to approve resolution 16-06, approving the riding academy. Motion passed with four in favor, Dias absent.

MISCELLANEOUS

1. FUTURE MEETINGS:	The next regular meeting of the Planning Commission is scheduled for Monday, August 1, 2016.
2. CORRESPONDENCE:	None
3. STAFF COMMENTS:	None
4. COMMISSION COMMENTS:	Commissioner Gregory asked about the status of the appeal on the solar project. Chairman Trapnell introduced and welcomed Lupe Chavez as the new Commission member.

ADJOURNMENT – The meeting was adjourned at 7:20 p.m.

Respectfully Submitted,

KINGS COUNTY PLANNING COMMISSION

Chuck Kinney, Acting Commission Secretary

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DIVISION TWO OF THE KINGS COUNTY ADVISORY AGENCY STAFF REPORT

Vesting Tentative Tract No. 852
Development Code 669.12
September 12, 2016

APPLICANT: SMS Financial, LLC, 6829 North 12th Street, Phoenix, AZ 85014

PROPERTY OWNER: SMS Hanford, LLC, 6829 North 12th Street, Phoenix, AZ 85014

LOCATION: The project site is located at 8606 14th Avenue, in the unincorporated community of Grangeville.

ZONE CLASSIFICATION: Rural Residential Estate (RRE)

GENERAL PLAN DESIGNATION: Very Low Density Residential (V-LD)

DESCRIPTION OF PROJECT: The applicant proposes a three (3) year extension of time on the approved Vesting Tentative Tract No. 852. The original application proposed to divide 50.15 acres into 39 lots, including single-family dwellings to be constructed on each lot. The Assessor's Parcel Number is (APN: 005-030-013).

DISCUSSION:

The applicant proposes to divide 50.15 acres into 39 lots, including single-family dwellings to be constructed on each lot. The existing single-family dwelling currently located within the proposed road (Hollyhills Drive) is proposed to be removed. The Assessor's Parcel Number is (APN: 005-030-013). The proposed land division will include 39 lots ranging in size from 1.0 acre to 1.54 acres in size, averaging 1.16 acres in size. The remaining acreage will be used for roads (5.06 acres).

This project proposes to establish a gated community. Gates are proposed on both the 14th Avenue, and Lilly Way, entrances to the subdivision. A six foot tall block wall is proposed to be constructed around the project site.

A homeowner's association will be created to finance and administer the maintenance of the streets, wall, landscaping, etc.

It should be noted that Section 1605.B.2.a(1)(a) and 1605.B.2.a(2)(a) states that a fence or wall, not exceeding seven (7) feet in height, may be erected within any portion of the property provided that it is set back a minimum of ten (10) feet from the front property line and meets the Traffic Safety Visibility Area requirements. In order to bring the proposed lots 1, 27, and 39 into compliance with the *Kings County Zoning* Ordinance Variance No. 05-02 was approved, pursuant to Article 22, Section 2207., to allow for a block wall to be located within the required front yard setback.

CURRENT USE OF SITE: Fallowed agriculture land and walnut orchard.

LAND USE SURROUNDING SITE: Single family residences, Pioneer Elementary School, rural commercial uses and agriculture.

PROJECT REVIEW:

July 6, 2005	Application submitted
May 17, 2006	Application certified complete
October 7, 2005	Begin 20-day review period for environmental review
October 27, 2005	20 day environmental review period ends
June 5, 2006	Resolution No. 06-03 adopted by Division Two of the Kings County Advisory Agency approving V.T.T. No. 852
April 7, 2016	Applicant submits request for a three year extension of time
September 12, 2016	Public Hearing

RECOMMENDATIONS:

It is recommended that the Kings County Planning Commission, acting in its capacity of Division Two of the Kings County Advisory Agency, approve a three year extension of time for Vesting Tentative Tract No. 852 as described above and adopt Resolution No. 16-07. Approval of this Resolution will:

1. Find that this Advisory Agency hereby reaffirms all of the findings previously made for Vesting Tentative Tract No. 852, reaffirms all of the findings and the conditions of approval contained in Advisory Agency Resolution No. 06-03, and approves the three (3) year extension of time.

Within ten (10) days following the date of the decision of Division Two of the Kings County Advisory Agency, 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.

PREPARATION:

Prepared by the Kings County Planning Agency (Dan Kassik) on June 21, 2016. Copies are available for review at the Kings County Planning Department, Government Center, Hanford, California, or at the Kings County Clerk's Office, Government Center, Hanford, California.

Attachment #1: PC Resolution 06-03

Attachment #1

BEFORE DIVISION TWO OF THE KINGS COUNTY ADVISORY AGENCY FOR PARCEL MAPS AND SUBDIVISIONS COUNTY OF KINGS, STATE OF CALIFORNIA

IN THE MATTER OF TENTATIVE TRACT MAP NO. 852 (Montecito Ranch, LLC)	)))	**RESOLUTION NO. 06-03** **RE: Located at 8606 14TH Avenue, Hanford, CA 93230**

WHEREAS, on July 6, 2005, Hollyhills Development Company filed Tentative Tract No. 852 to divide 50.15 acres into thirty-nine (39) parcels ranging in size from 1.0 acre to 1.54 acres in size; and

WHEREAS, the application was determined to be complete on May 17, 2006; and

WHEREAS, on October 27, 2005, the twenty day public review period for the proposed Initial Study/Mitigated Negative Declaration for this project closed; and

WHEREAS, on June 1, 2006, the Kings County Planning Agency recommended that a de minimis Mitigated Negative Declaration be approved for the proposal; and

WHEREAS, on June 1, 2006, the Kings County Planning Department staff notified the applicant of the proposed recommendation on this project; and

WHEREAS, on June 5, 2006, the Kings County Planning Commission, acting in its capacity as Division Two of the Kings County Advisory Agency, held a duly noticed public hearing to receive testimony from any interested person.

NOW, THEREFORE, BE IT RESOLVED, that this Advisory Agency finds that:

1. An Initial Study of the project has been conducted by the Lead Agency to evaluate the potential for any adverse environmental impact.

2. There is no evidence in the record that indicates that the project has potential for adverse effect on wildlife, resources, or habitat for wildlife.

3. The presumption that the project will have a potential for adverse effect on fish and wildlife resources or the habitat upon which wildlife depends is rebutted based on evidence in the record that:

   A. The project does not involve any riparian land, rivers, streams, watercourses, or wetlands under State and Federal jurisdiction.

   B. The project does not disturb any plant life required to sustain habitat for fish or wildlife.

   C. The project does not disturb any rare or unique plant life or ecological communities dependent on plant life.

   D. The project does not threaten any listed or endangered plant or animals or the habitat in which they are believed to reside.

E. The project does not disturb any plants or animals that are subject to special management in the Fish and Game Code, Public Resources Code, the Water Code or any regulations thereto.

F. The project does not disturb any marine or terrestrial species which are subject to the jurisdiction of the Department of Fish and Game and ecological communities in which they reside.

G. The project will not degrade any air or water resources which will individually or cumulatively result in a loss of biological diversity among plants and animals residing in the air or water.

4. The proposed project may have a significant adverse impacts on the environment, however those impacts can be mitigated to an insignificant level by implementing the mitigation monitoring program attached to this resolution as Exhibit "A." A de minimis Mitigated Negative Declaration for Tentative Tract No. 852 has been recommended to be certified as the environmental document for this project. The proposed division will not have a significant impact on the environment provided that the following mitigation measures, pursuant to Section 15041 of the *California Code of Regulations*, are carried out during any development of the land subsequent to the division. With the exception of item "D" below these mitigation measures are conditions of development, not conditions of approving the Final Map.

A. The developer shall comply with all requirements of the San Joaquin Valley Unified Air Pollution Control District Rules, specifically:

(1) Rule 4901, which regulates the sale, installation, and transfer of wood burning devices.
(2) Rule 4902, which regulates the sale and installation of natural gas-fired water heaters to limit the emissions of oxides of nitrogen.
(3) Regulation VIII concerning fugitive dust rules.

B. All lighting shall be hooded and directed on site to prevent glare onto surrounding properties and roadways.

C. If, in the course of project construction or operation, any archaeological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within fifty (50) feet of the find shall cease. A qualified archaeologist shall be contacted and advise the County of the site's significance. If the findings are deemed significant by the Kings County Planning Agency, appropriate mitigation measures shall be required prior to any resumption of work in the affected area of the project.

D. A grading plan addressing the potential for flooding due to canal bank breach shall be submitted to the County Surveyor and the County Building Official for their review and approval with, or prior to, the submission of the improvement drawings for the subdivision.

E. Noise producing equipment used during construction shall be restricted to the hours from 7:00 A.M. to 7:00 P.M., Monday through Friday, and 9:00 A.M. to 6:00 P.M. on Saturday and Sunday. Effective mufflers shall be fitted to gas-powered and diesel-powered equipment.

5. The project site is not located within an established Agricultural Preserve.

6. Section 66474(a) of the California Government Code allows a legislative body to approve a tentative map if the proposed map is consistent with the applicable general plan. The proposed land division, as recommended for approval, is consistent with the policies of the Kings County General Plan, specifically:

A. Page LU-26, Figure 10 of the 1993 Kings County General Plan designates this site as Very Low Density (V-LD) Residential.

B. The Land Use Designation Equivalency Chart, contained in Appendix 2, Table 5, lists RRE and RRA as the appropriate zone districts within the Very Low Density Residential land use designation.

C. Page LU-14, Policy LU 11.1a states that Rural Residential zoning in the community of Grangeville should be maintained but not expanded.

D. Page LU-14, Objective LU 11.2 allows the development of areas designated by the General Plan and zoned Rural Residential.

E. Page LU-15, Policy LU 11.2a permits minor developments intended to make more efficient use of the land in existing Rural Residential zones, within the limits of the available services.

The project site is located in an area that was first designated for rural residential use in 1976 by the adoption of Phase 2 of the Environmental Resources Management Element of the Kings County General Plan (ERME-2). The project site is part of an overall strategy to concentrate residential uses by providing a rural residential area in Grangeville. This strategy is designed to reduce the demand for non-agricultural residential uses in the agricultural zone districts.

7. The proposed division, as recommended for approval, is consistent with the *Kings County Zoning Ordinance*.

A. Article 7, Section 703.F. of the Rural Residential Estate (RRE) District states that in no instance shall the site be less than one (1) acre if both individual water supply and individual sewage waste disposal systems are to be utilized on the site.

B. Article 7, Section 703.G. of the *Kings County Zoning Ordinance* states that the minimum frontage, width, and depth of sites are as follows:

1. Where there are no curbs and gutters, each site shall have not less than one hundred sixty (160) feet of frontage, or eighty five (85) feet of frontage when a site fronts on a cul-de-sac or loop-out street "turning bulb." Where there are curbs and gutters each site shall have not less than eighty (80) feet of frontage, or sixty (60) feet of frontage when a site fronts on a cul-de-sac or loop-out street.

2. The minimum width of each site shall be one hundred sixty (160) feet.

3. Each site shall have a depth of not less than one hundred fifty (150) feet.

BE IT FURTHER RESOLVED, that based on the above findings, this Advisory Agency approves the de minimis Mitigated Negative Declaration for Tentative Tract No. 852, and approves Tentative Tract No. 852, as proposed, subject to the conditions and exceptions as follows:

KINGS COUNTY PLANNING AGENCY: (Contact Mr. Chuck Kinney of the Kings County Planning Agency at (559) 582-3211, Extension 2674 regarding the following requirements.)

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

2. Surveying and mapping requirements shall conform to Section 66448 of the Subdivision Map Act.

3. A Final Map is required which substantially complies with the approved Tentative Tract Map No. 852.

4. A grading plan addressing the potential for flooding due to canal bank breach shall be submitted to the County Surveyor and the County Building Official for their review and approval with, or prior to, the submission of the improvement drawings for the subdivision. This must be done before the Final Map is recorded.

5. Areas where wells and leach fields can be located shall be depicted on a separate instrument of record. Said areas are shown on the tentative tract map.

6. The owner/developer shall supply and construct hazard control fencing along all lots backing on the bank side of the Last Chance Ditch.

7. The development shall comply with all regulations of *Zoning Ordinance No. 269.63*, with particular reference to the Rural Residential Estate (RRE) Zone District standards contained in Article 7.

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

   A. The minimum front yard setback shall be not less than ninety (90) feet from the front property line.
   B. The minimum side yard setback for an interior lot shall be not less than twenty (20) feet from the property line.
   C. The minimum side yard setback on the street side of a corner lot shall be not less than forty-five (45) feet from the property line.
   D. The minimum rear yard setback shall be not less than twenty (20) feet from the rear property line.

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

10. Gates which are used for vehicular ingress and egress 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 twenty (20) feet or,
    (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.

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

12. 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.

13. Pursuant to Section 14-47(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.

14. The Final Map, the document specifying areas where wells and leach fields can be located, and the Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings shall be recorded simultaneously.

15. Within ten (10) days following the date of the decision of Division Two of the Kings County Advisory Agency, 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.

PUBLIC WORKS REQUIREMENTS (Contact Mike Hawkins at the Kings County Public Works Department at (559) 582-3211, Extension 2708, regarding the following requirements):

16. All requirements required hereafter shall conform to the *Kings County Improvement Standards*.

17. All other alternatives to Public Works requirements shall be approved by the Kings County Public Works Department.

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

19. The owner/developer shall supply Kings County with improvement plans for review, comment, and approval.

20. A final map shall be required.

21. A field survey may be required.

22. On site traffic circulation, ingress and egress, and parking shall be per approved plan.

23. The developer shall provide asphalt concrete drive approach (es).

24. Right-of-way as shown on the proposed Tentative Tract Map No. 852 shall be dedicated to the County on behalf of the public, but shall not be added to the maintained mileage of the County.

25. The applicant shall construct Roads in accordance with Section 302 of the *Kings County Improvement Standards* and it shall be RESIDENTIAL MINOR LOW DENSITY. Maintenance of the new roads shall be provided pursuant to Section 112 of the *Kings County Improvement Standards*, and the subdivision is required to form a Zone of Benefit for the maintenance of the new road and pay for all of the costs associated with the creation of the Zone of Benefit.

26. The developer shall furnish and shall place ANY TRAFFIC SIGNS AS REQUIRED in accordance with the Kings County Public Works Department.

27. All drainage shall be contained on-site in accordance with Section 404-C. The plan must be submitted for approval by the Public Works Department. (See Improvement Standards Drawing 4042)

    A. The on-site drainage area must not be located in the proximity of any septic area

28. Encroachment permits for drive approaches and other work in the right of way shall be obtained from the Public Works Department.

29. Bridge Design and Construction plans for the Bridge shall conform to Caltrans standards and shall be reviewed and approved by the Kings County Public Works Department. The Last Chance Ditch Company shall also review the plans to ensure that the flow in the canal will not be impeded.

30. The owner/developer shall enter into a subdivision agreement with Kings County and pay the required inspection and plan check fees.

FIRE DEPARTMENT: (Contact Mike Virden at the Kings County Fire Department at (559) 582-3211, Extension 2884 for the following requirements.)

31. All-weather access roads capable of supporting heavy fire apparatus, twenty (20) feet in width and having a vertical clearance of 13 feet 6 inches, shall be provided as soon as combustible materials begin to accumulate. Construction of structures shall proceed as long as no portion of any structure is farther than one-hundred-and-fifty (150) from fire apparatus access. Access roads shall be maintained during the construction phase and shall not be blocked by equipment or materials.

32. Combustible material shall not be allowed to accumulate to the point of creating a fire hazard to the structures under construction. Lots shall be cleaned periodically to prevent build up of such waste.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT: (Contact Heather Ellison at the SJVAPCD at (661) 326-6980 concerning the following requirements.)

33. The developer shall ensure that dust control measures as specified in the San Joaquin Valley Unified Air Pollution Control District Regulation VIII, are implemented during construction activities to reduce PM_{10} emissions.

34. The developer shall ensure that the Residential Wood Burning measures as specified in the San Joaquin Valley Unified Air Pollution Control District Rule 4901, are implemented during construction activities to reduce PM_{10} emissions.

35. The developer shall ensure the Residential Water Heater measures as specified in the San Joaquin Valley Unified Air Pollution Control District Rule 4902, are implemented during construction activities to reduce PM_{10} emissions.

SOUTHERN CALIFORNIA EDISON: (Contact Lisa Salinas/S.L. Title and Real Estate Services at (714) 934-0838 for the following requirements.

36 In the event that the development requires relocation of facilities of any easements, held by Southern California Edison Company within the boundaries of said map, on the subject property, which facilities exist by right of easement or otherwise, the owner/developer will be requested to bear the cost of such relocation and provide Edison with suitable replacement rights. Such costs and replacement rights are required prior to the performance of the relocation.

The foregoing Resolution was adopted on a motion by Advisory Agency Member Gregory and seconded by Advisory Agency Member Jones, at a regular meeting held on June 5, 2006, by the following vote:

AYES: Gregory; Jones; Draxler; Trapnell; Cartwright
NOES: None
ABSTAIN: None
ABSENT: None

Division Two of the Kings County Advisory Agency
for Parcel Maps and Subdivisions

Mark Cartwright
Presiding Officer

WITNESS, my hand this 6th day of June, 2006.

William R. Zumwalt
Secretary to the Advisory Agency

cc: Kings County Board of Supervisors
Kings County Counsel
Kings County Assessor
Kings County Surveyor
Barry Linder, CEI Engineering Associates, Inc., 1044 E. Herndon Avenue, Suite 108, Fresno, CA 93720
Neil Bellany, Last Chance Water Ditch Co., P.O. Box 131, Hanford, CA 93232-0131
Hollyhills Development Company, 3900 Killroy Airport Way (Suite 213), Long Beach, CA 90806
Hanford Montecito Ranch LLC, 419 N. Larchmont #58, Los Angeles, CA 90004
Clifford Douglas Trust, P.O. Box 2729, Rancho Santa Fe, CA 92067

BEFORE DIVISION TWO OF THE KINGS COUNTY ADVISORY AGENCY FOR PARCEL MAPS AND SUBDIVISIONS COUNTY OF KINGS, STATE OF CALIFORNIA

IN THE MATTER OF TENTATIVE TRACT)	**RESOLUTION NO. 16-07**
MAP NO. 852 (Montecito Ranch, LLC))	
Extension of Time)	**RE: Located at 8606 14TH Avenue, Hanford, CA 93230**

WHEREAS, on July 6, 2005, Hollyhills Development Company filed Tentative Tract No. 852 to divide 50.15 acres into thirty-nine (39) parcels ranging in size from 1.0 acre to 1.54 acres in size; and

WHEREAS, the application was determined to be complete on May 17, 2006; and

WHEREAS, on October 27, 2005, the twenty day public review period for the proposed Initial Study/Mitigated Negative Declaration for this project closed; and

WHEREAS, on June 1, 2006, the Kings County Planning Agency recommended that a de minimis Mitigated Negative Declaration be approved for the proposal; and

WHEREAS, on June 1, 2006, the Kings County Planning Department staff notified the applicant of the proposed recommendation on this project; and

WHEREAS, on June 5, 2006, the Kings County Planning Commission, acting in its capacity as Division Two of the Kings County Advisory Agency, held a duly noticed public hearing to receive testimony from any interested person.

WHEREAS, on June 5, 2006, this Advisory Agency found that:

1. An Initial Study of the project has been conducted by the Lead Agency to evaluate the potential for any adverse environmental impact.

2. There is no evidence in the record that indicates that the project has potential for adverse effect on wildlife, resources, or habitat for wildlife.

3. The presumption that the project will have a potential for adverse effect on fish and wildlife resources or the habitat upon which wildlife depends is rebutted based on evidence in the record that:

   A. The project does not involve any riparian land, rivers, streams, watercourses, or wetlands under State and Federal jurisdiction.

   B. The project does not disturb any plant life required to sustain habitat for fish or wildlife.

   C. The project does not disturb any rare or unique plant life or ecological communities dependent on plant life.

   D. The project does not threaten any listed or endangered plant or animals or the habitat in which they are believed to reside.

E. The project does not disturb any plants or animals that are subject to special management in the Fish and Game Code, Public Resources Code, the Water Code or any regulations thereto.

F. The project does not disturb any marine or terrestrial species which are subject to the jurisdiction of the Department of Fish and Game and ecological communities in which they reside.

G. The project will not degrade any air or water resources which will individually or cumulatively result in a loss of biological diversity among plants and animals residing in the air or water.

4. The proposed project may have a significant adverse impacts on the environment, however those impacts can be mitigated to an insignificant level by implementing the mitigation monitoring program attached to this resolution as Exhibit "A." A de minimis Mitigated Negative Declaration for Tentative Tract No. 852 has been recommended to be certified as the environmental document for this project. The proposed division will not have a significant impact on the environment provided that the following mitigation measures, pursuant to Section 15041 of the *California Code of Regulations*, are carried out during any development of the land subsequent to the division. With the exception of item "D" below these mitigation measures are conditions of development, not conditions of approving the Final Map.

A. The developer shall comply with all requirements of the San Joaquin Valley Unified Air Pollution Control District Rules, specifically:

(1) Rule 4901, which regulates the sale, installation, and transfer of wood burning devices.
(2) Rule 4902, which regulates the sale and installation of natural gas-fired water heaters to limit the emissions of oxides of nitrogen.
(3) Regulation VIII concerning fugitive dust rules.

B. All lighting shall be hooded and directed on site to prevent glare onto surrounding properties and roadways.

C. If, in the course of project construction or operation, any archaeological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within fifty (50) feet of the find shall cease. A qualified archaeologist shall be contacted and advise the County of the site's significance. If the findings are deemed significant by the Kings County Planning Agency, appropriate mitigation measures shall be required prior to any resumption of work in the affected area of the project.

D. A grading plan addressing the potential for flooding due to canal bank breach shall be submitted to the County Surveyor and the County Building Official for their review and approval with, or prior to, the submission of the improvement drawings for the subdivision.

E. Noise producing equipment used during construction shall be restricted to the hours from 7:00 A.M. to 7:00 P.M., Monday through Friday, and 9:00 A.M. to 6:00 P.M. on Saturday and Sunday. Effective mufflers shall be fitted to gas-powered and diesel-powered equipment.

5. The project site is not located within an established Agricultural Preserve.

6. Section 66474(a) of the California Government Code allows a legislative body to approve a tentative map if the proposed map is consistent with the applicable general plan. The proposed land division, as

recommended for approval, is consistent with the policies of the Kings County General Plan, specifically:

A. Page LU-26, Figure 10 of the 1993 Kings County General Plan designates this site as Very Low Density (V-LD) Residential.

B. The Land Use Designation Equivalency Chart, contained in Appendix 2, Table 5, lists RRE and RRA as the appropriate zone districts within the Very Low Density Residential land use designation.

C. Page LU-14, Policy LU 11.1a states that Rural Residential zoning in the community of Grangeville should be maintained but not expanded.

D. Page LU-14, Objective LU 11.2 allows the development of areas designated by the General Plan and zoned Rural Residential.

E. Page LU-15, Policy LU 11.2a permits minor developments intended to make more efficient use of the land in existing Rural Residential zones, within the limits of the available services.

The project site is located in an area that was first designated for rural residential use in 1976 by the adoption of Phase 2 of the Environmental Resources Management Element of the Kings County General Plan (ERME-2). The project site is part of an overall strategy to concentrate residential uses by providing a rural residential area in Grangeville. This strategy is designed to reduce the demand for non-agricultural residential uses in the agricultural zone districts.

7. The proposed division, as recommended for approval, is consistent with the *Kings County Zoning Ordinance*.

A. Article 7, Section 703.F. of the Rural Residential Estate (RRE) District states that in no instance shall the site be less than one (1) acre if both individual water supply and individual sewage waste disposal systems are to be utilized on the site.

B. Article 7, Section 703.G. of the *Kings County Zoning Ordinance* states that the minimum frontage, width, and depth of sites are as follows:

1. Where there are no curbs and gutters, each site shall have not less than one hundred sixty (160) feet of frontage, or eighty five (85) feet of frontage when a site fronts on a cul-de-sac or loop-out street "turning bulb." Where there are curbs and gutters each site shall have not less than eighty (80) feet of frontage, or sixty (60) feet of frontage when a site fronts on a cul-de-sac or loop-out street.

2. The minimum width of each site shall be one hundred sixty (160) feet.

3. Each site shall have a depth of not less than one hundred fifty (150) feet.

WHEREAS, on June 5, 2006, based on the above findings, this Advisory Agency approved the de minimis Mitigated Negative Declaration for Tentative Tract No. 852, and approved Tentative Tract No. 852, as proposed, subject to the conditions and exceptions as follows:

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

2. Surveying and mapping requirements shall conform to Section 66448 of the Subdivision Map Act.

3. A Final Map is required which substantially complies with the approved Tentative Tract Map No. 852.

4. A grading plan addressing the potential for flooding due to canal bank breach shall be submitted to the County Surveyor and the County Building Official for their review and approval with, or prior to, the submission of the improvement drawings for the subdivision. This must be done before the Final Map is recorded.

5. Areas where wells and leach fields can be located shall be depicted on a separate instrument of record. Said areas are shown on the tentative tract map.

6. The owner/developer shall supply and construct hazard control fencing along all lots backing on the bank side of the Last Chance Ditch.

7. The development shall comply with all regulations of *Zoning Ordinance No. 269.63*, with particular reference to the Rural Residential Estate (RRE) Zone District standards contained in Article 7.

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

   A. The minimum front yard setback shall be not less than ninety (90) feet from the front property line.
   B. The minimum side yard setback for an interior lot shall be not less than twenty (20) feet from the property line.
   C. The minimum side yard setback on the street side of a corner lot shall be not less than forty-five (45) feet from the property line.
   D. The minimum rear yard setback shall be not less than twenty (20) feet from the rear property line.

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

10. Gates which are used for vehicular ingress and egress 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 twenty (20) feet or,
    (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.

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

12. 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.

13. Pursuant to Section 14-47(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.

14. The Final Map, the document specifying areas where wells and leach fields can be located, and the Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings shall be recorded simultaneously.

15. Within ten (10) days following the date of the decision of Division Two of the Kings County Advisory Agency, 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.

16. All requirements required hereafter shall conform to the *Kings County Improvement Standards*.

17. All other alternatives to Public Works requirements shall be approved by the Kings County Public Works Department.

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

19. The owner/developer shall supply Kings County with improvement plans for review, comment, and approval.

20. A final map shall be required.

21. A field survey may be required.

22. On site traffic circulation, ingress and egress, and parking shall be per approved plan.

23. The developer shall provide asphalt concrete drive approach (es).

24. Right-of-way as shown on the proposed Tentative Tract Map No. 852 shall be dedicated to the County on behalf of the public, but shall not be added to the maintained mileage of the County.

25. The applicant shall construct Roads in accordance with Section 302 of the *Kings County Improvement Standards* and it shall be RESIDENTIAL MINOR LOW DENSITY. Maintenance of the new roads shall be provided pursuant to Section 112 of the *Kings County Improvement Standards*, and the subdivision is required to form a Zone of Benefit for the maintenance of the new road and pay for all of the costs associated with the creation of the Zone of Benefit.

26. The developer shall furnish and shall place ANY TRAFFIC SIGNS AS REQUIRED in accordance with the Kings County Public Works Department.

27. All drainage shall be contained on-site in accordance with Section 404-C. The plan must be submitted for approval by the Public Works Department. (See Improvement Standards Drawing 4042)

    A. The on-site drainage area must not be located in the proximity of any septic area

28. Encroachment permits for drive approaches and other work in the right of way shall be obtained from the Public Works Department.

29. Bridge Design and Construction plans for the Bridge shall conform to Caltrans standards and shall be reviewed and approved by the Kings County Public Works Department. The Last Chance Ditch Company shall also review the plans to ensure that the flow in the canal will not be impeded.

30. The owner/developer shall enter into a subdivision agreement with Kings County and pay the required inspection and plan check fees.

31. All-weather access roads capable of supporting heavy fire apparatus, twenty (20) feet in width and having a vertical clearance of 13 feet 6 inches, shall be provided as soon as combustible materials begin to accumulate. Construction of structures shall proceed as long as no portion of any structure is farther than one-hundred-and-fifty (150) from fire apparatus access. Access roads shall be maintained during the construction phase and shall not be blocked by equipment or materials.

32. Combustible material shall not be allowed to accumulate to the point of creating a fire hazard to the structures under construction. Lots shall be cleaned periodically to prevent build up of such waste.

33. The developer shall ensure that dust control measures as specified in the San Joaquin Valley Unified Air Pollution Control District Regulation VIII, are implemented during construction activities to reduce PM_{10} emissions.

34. The developer shall ensure that the Residential Wood Burning measures as specified in the San Joaquin Valley Unified Air Pollution Control District Rule 4901, are implemented during construction activities to reduce PM_{10} emissions.

35. The developer shall ensure the Residential Water Heater measures as specified in the San Joaquin Valley Unified Air Pollution Control District Rule 4902, are implemented during construction activities to reduce PM_{10} emissions.

36. In the event that the development requires relocation of facilities of any easements, held by Southern California Edison Company within the boundaries of said map, on the subject property, which facilities exist by right of easement or otherwise, the owner/developer will be requested to bear the cost of such relocation and provide Edison with suitable replacement rights. Such costs and replacement rights are required prior to the performance of the relocation.

WHEREAS, on April 7, 2016, the applicant requested a three (3) year extension of time on the expiration of Tentative Tract No. 852; and

WHEREAS, on September 2, 2016, the Kings County Planning Department staff notified the applicant of the proposed recommendation on this project; and

WHEREAS, on September 12, 2016, the Advisory Agency held a duly noticed public hearing to receive testimony from any interested person; and

NOW, THERFORE, BE IT RESOLVED, that this Advisory Agency hereby reaffirms all of the findings previously made for Tentative Tract Map No. 852, reaffirms all of the findings and the conditions of approval contained in Advisory Agency Resolution No. 06-03, and hereby approves the three year extension of time.

The foregoing Resolution was adopted on a motion by Advisory Agency Member _____ and seconded by Advisory Agency Member _____, at a regular meeting held on September 12, 2016, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

Division Two of the Kings County Advisory Agency
for Parcel Maps and Subdivisions

_____

R. G. Trapnell
Presiding Officer

WITNESS, my hand this ____ day of September, 2016.

_____

Gregory R. Gatzka
Secretary to the Advisory Agency

cc: Kings County Board of Supervisors
Kings County Counsel
Kings County Assessor
Kings County Surveyor
SMS Hanford, LLC, 6829 North 12th Street, Phoenix, AZ 85014

KINGS COUNTY PLANNING COMMISSION
STAFF REPORT

Change of Zone District Boundaries No. 16-01
September 12, 2016

APPPLICANT: Kings County Community Development Agency, 1400 Lacey Blvd., Hanford, CA

PROPOSED CHANGES: Changes of Zone District Boundaries to bring existing zoning into compliance with the 2035 Kings County General Plan and Kings County Development Code.

DISCUSSION:
The zone changes proposed in this staff report are proposed for sites located throughout the county and are a result of Staff's ongoing maintenance and administration of the General Plan. The current proposal will bring the properties into compliance with the General Plan and are summarized as follows:

- Home Garden Area – The parcel is located at the corner of Home Ave and 10th Ave and is developed with a convenience store. The owners recently built a new building and it was during that time that Staff discovered the existing zoning was not compatible with the General Plan. The proposal is for the change of zone district boundaries from the current Service Commercial (CS) zoning designation to the Neighborhood Commercial (CN) zoning designation.

- Stratford Area – The parcel is located along Empire Street and is currently vacant. The eastern portion of the parcel is currently zoned Natural Resource Conservation (NRC), however there is no longer an NRC zoning district within the Development Code. The proposal is for the change of zone district boundaries from the current Natural Resource Conservation (NRC) zoning designation to the Limited Agriculture 10 (AL-10) zoning designation.

- Kettleman City Area – The parcel is located on Becky Pease Street and is developed with the County library. The parcel is partially zoned as Transitional Use (T) which no longer exists as a zone district within the Development Code. The proposal is for the change of zone district boundaries from the current Transitional Use (T) and Rural Commercial (CR) zoning designations to the Public Facilities (PF) zoning designation.

All of the affected official Kings County Zone Maps will be amended to reflect the approved changes of zones.

INCREMENT OF CHANGES FOR CONSIDERATION: All general and geographic descriptions of properties proposed for change of Zone District Boundaries are contained in Exhibit "A" of Resolution 16-08.

ENVIRONMENTAL REVIEW:

The project is a change of zone district boundaries in order to bring all zone districts into consistency with the *2035 King County General Plan*. The environmental determination on this application is that the 2035 Kings County General Plan Program Environmental Impact Report (PEIR) is the environmental document for this project. Section 15168 of the CEQA Guidelines recognizes that a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related either:

(1) Geographically,
(2) As logical parts in a chain of contemplated actions,
(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
(4) As individual activities carried out under the same statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The changes of zone district boundaries are being proposed to obtain consistency with the changes of land use designations implemented by the *2035 Kings County General Plan*. Project specific EIR's may be required to address potentially significant impacts related to any specific project listed in the zoning ordinance as requiring environmental review.

STAFF ANALYSIS:

Section 65860 of the California Government Code requires that the County's zoning ordinance must be consistent with the County's general plan and that the zoning ordinance shall be amended within a reasonable time so that it is consistent with the general plan as amended. The Planning Commission must make the finding that the zoning ordinance is consistent with the general plan along with findings from the zoning ordinance, in order to approve zone changes. With regard to these required findings, the Commission must make the specific findings that:

A. The changes are required to achieve the objectives of the zoning ordinance prescribed in Section .
B. The changes would be consistent with the purposes and intended application of the zone classification proposed.
C. The changes of zone are consistent with the *2035 Kings County General Plan*.

Pursuant to finding "A", staff comments that the zone changes will ensure consistency with the objectives and policies of the *2035 Kings County General Plan* and achieve the objectives of the *Kings County Development Code*. All changes of zone district boundaries proposed are recommended so that the general plan land use designations and site specific zoning are consistent. This change of zone district boundaries will meet the objective of the Development Code to preserve, protect, and promote the public health, safety, peace, comfort, convenience, prosperity and general welfare by providing a plan for the physical development of the county in such a manner as to achieve progressively the general arrangement of land uses depicted in the general plan.

Pursuant to finding "B", staff comments that the proposed zone changes would be consistent with the purposes and intended application of the zone classification proposed by conforming to the *Kings County Development Code*. The proposed zone districts, once adopted, will be consistent with the *2035 Kings County General Plan*.

Pursuant to finding "C", staff comments that the proposed changes of zone are consistent with the *2035 Kings County General Plan*. The *2035 Kings County General Plan* makes improvements to the distribution of land use throughout the County, and enhances land use policy foundations to meet current legislative and environmental challenges.

STAFF RECOMMENDATION: Staff recommends that the Commission, upon completion of the public hearing recommend:

1. Re-certifies the Environmental Impact Report as the environmental document for Change of Zone District Boundaries No. 16-01.

2. The Commission finds that Change of Zone District Boundaries No. 16-01 is consistent with the 2035 *Kings County General Plan* and the purposes and intended application of the zone classifications proposed.

3. The Commission finds that Change of Zone District Boundaries No. 16-01 will achieve the objectives of the General Plan and the Development Code.

4. Adopt Resolution No. 16-08, recommending that the Board of Supervisors approve Change of Zone District Boundaries No. 16-01.

Prepared by the Kings County Community Development Agency (Dan Kassik) on August 25, 2016. Copies are available for review at the Kings County Community Development Agency, Government Center, Hanford, California, or at the Kings County Clerk's Office, Government Center, Hanford, California.

BEFORE THE KINGS COUNTY PLANNING COMMISSION
COUNTY OF KINGS, STATE OF CALIFORNIA

IN THE MATTER OF CHANGE OF ZONE	**)**	**RESOLUTION NO. 16-08**
DISTRICT BOUNDARIES 16-01 FOR VARIOUS	**)**	
PARCELS THROUGHOUT THE COUNTY TO	**)**	
ENSURE GENERAL PLAN CONSISTENCY	**)**	**Re: Change of Zone District Boundaries for Various Parcels Throughout Kings County**

WHEREAS, the California Government Code, Section 65300, requires that the planning agency of each county or city prepare, and the legislative body adopt, a comprehensive, long-term general plan for the physical development of the county or city; and

WHEREAS, on December 14, 2009, after a duly noticed public hearing, the Kings County Planning Commission adopted Resolution No. 09-15 approving the *2035 Kings County General Plan* and recommending its adoption by the Kings County Board of Supervisors; and

WHEREAS, on January 26, 2010, after a duly noticed public hearing, the Kings County Board of Supervisors adopted Resolution No. 10-002 adopting the *2035 Kings County General Plan*; and

WHEREAS, from time to time the General Plan requires adjustment of its contents to ensure that it is consistent with current law, is internally consistent, consolidates and coordinates policies from one element to another, and addresses the changing physical needs of the county and the people who live and work here; and

WHEREAS, the California Government Code, Section 65103 requires the implementation of the general plan through actions, including but not limited to the administration of specific plans and zoning and subdivision ordinances; and

WHEREAS, in August 2016, the Kings County Community Development Agency filed an application for Change of Zone District Boundaries 16-01 to initiate change of zone district boundaries for parcels to ensure consistency with the General Plan; and

WHEREAS, the Change of Zone District Boundaries No. 16-01 proposes to change the zone district of a various parcels throughout Kings County as shown on Exhibit "A"; and

WHEREAS, The project is a change of zone district boundaries in order to bring all zone districts into consistency with the *2035 King County General Plan*. The environmental determination on this application is that the 2035 Kings County General Plan Program Environmental Impact Report (PEIR) is the environmental document for this project. Section 15168 of the CEQA Guidelines recognizes that a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related either: (1) Geographically, (2) As logical parts in a chain of contemplated actions, (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) As individual activities carried out under the same statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

WHEREAS, this Commission has duly reviewed the contents of Change of Zone District Boundaries No. 16-01 as well as comments and testimony received from the public and interested governmental agencies.

NOW, THEREFORE, BE IT RESOLVED AND CERTIFIED, that this Commission finds that:

1. Re-certifies the Environmental Impact Report for the 2035 Kings County General Plan as the environmental document for Change of Zone District Boundaries No. 16-01.

2. The Commission finds that Change of Zone District Boundaries No. 16-01 is consistent with the 2035 *Kings County General Plan* and the purposes and intended application of the zone classifications proposed.

3. The Commission finds that Change of Zone District Boundaries No. 16-01 will achieve the objectives of the General Plan and the Development Code.

4. The Commission adopt Resolution No. 16-08, and directs the Secretary of the Planning Commission to present this Resolution and its Exhibit as approved by this commission, to the Kings County Board of Supervisors for their consideration and adoption.

The foregoing Resolution was adopted on a motion by Commissioner _____ and seconded by Commissioner _____, at a regular meeting held before the Kings County Planning Commission on September 12, 2016 by the following roll call vote:

AYES:	COMMISSIONERS:
NOES:	COMMISSIONERS:
ABSTAIN:	COMMISSIONERS:
ABSENT:	COMMISSIONERS:

KINGS COUNTY PLANNING COMMISSION

_____
R. G. Trapnell, Chairperson

WITNESS, my hand this ____ day of _____, 2016.

_____
Gregory R. Gatzka
Secretary to the Commission

cc: Kings County Board of Supervisors
Kings County Counsel

Exhibits: Exhibit A - General and Geographical Descriptions for Change of Zone District Boundaries No. 16-01

EXHIBIT "A"
General and Geographical Descriptions
Change of Zone District Boundaries No. 16-01

1. Zone Map No. 302.031
Home Garden Area
Service Commercial (CS) to Neighborhood Commercial (CN) (Map Attachment 1)

General: Assessor Parcel Number 016-171-010

Geographic Description: The western 190 foot portion of the parcel shown on Book 21, Page 80 of Licensed Surveyor Plats, Kings County Records and lying in Section 6, Township 19 South, Range 22 East, Mount Diablo Base and Meridian, in the County of Kings.

2. Zone Map No. 302.087
Stratford Area
Natural Resource Conservation (NRC) to Limited Agriculture 10 (AL-10) (Map Attachment 2)

General: Assessor Parcel Number 026-132-011

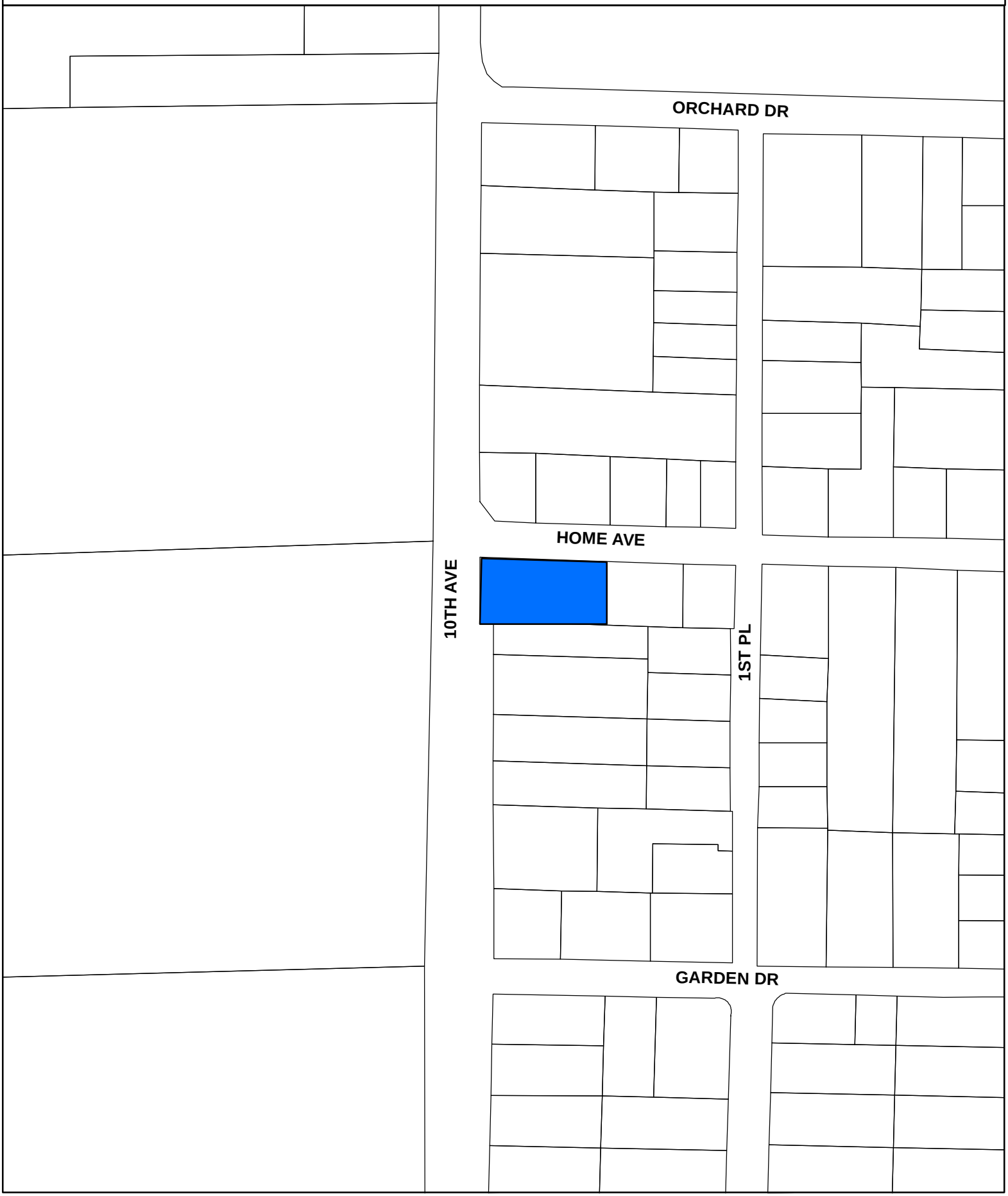
Geographic Description: Lot 101 of the Townsite of Stratford Map, recorded in Book 2, Page 1, Licensed Surveyors Plats, Kings County Records being a re-subdivsion of Section 17, Township 20 South, Range 20 East, Mount Diablo Base and Meridian, in the County of Kings.

3. Zone Map No. 302.049
Kettleman City Area
Transitional Use (T) and Rural Commercial (CR) to Public Facilities (PF) (Map Attachment 3)

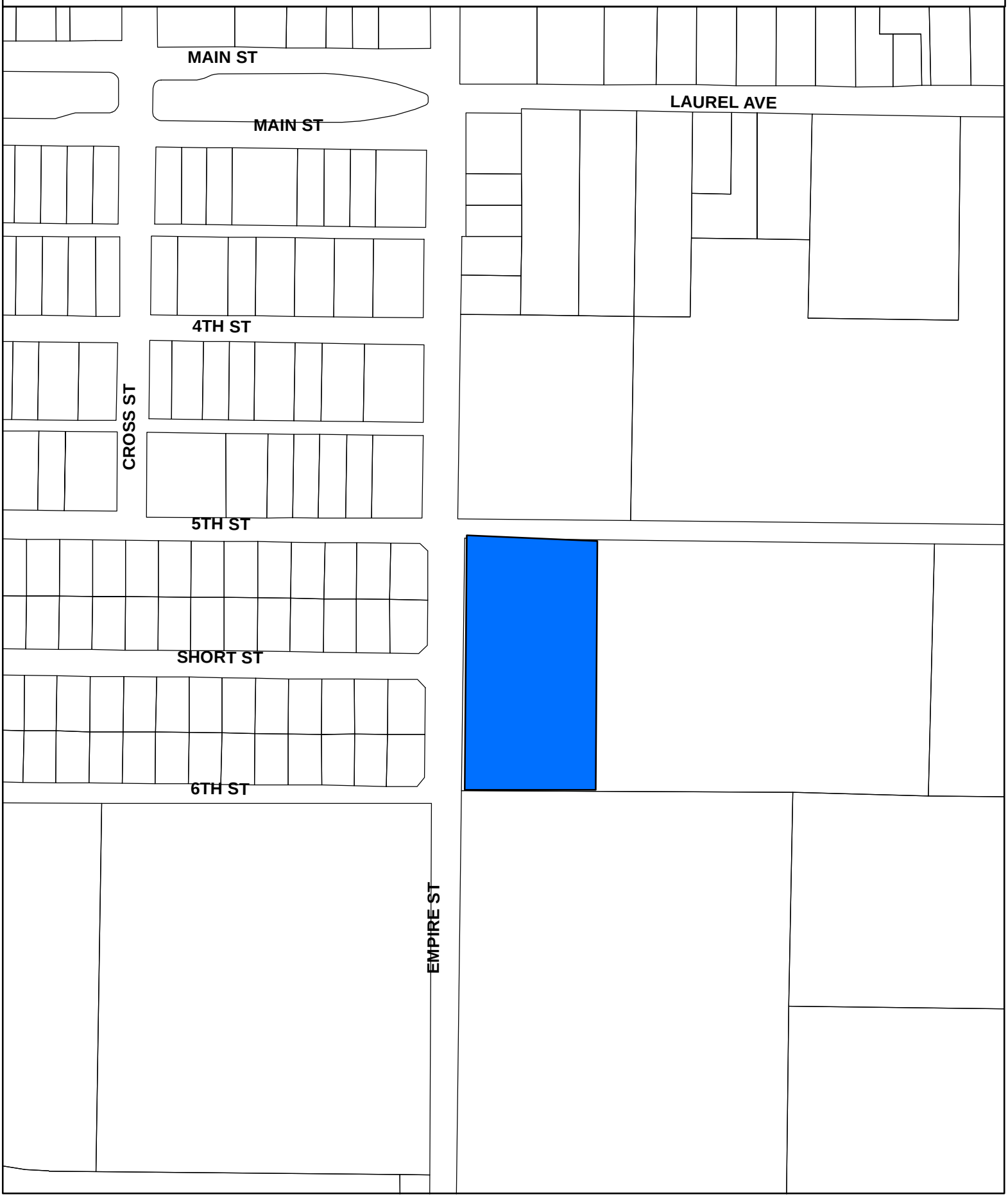
General: Assessor Parcel Number 042-137-013

Geographic Description: Lots 1, 2, 3, 4, 21, 22, 23 & 24 in Block 3 of Kettleman City Subdivision No, 1, County of Kings, According to map thereof recorded in Book 2 at Page 99 of Licensed Surveyor Plats. And that portion of the alley between said lots as abandoned by Resolution No. 90-041, adopted 04/17/90 and recorded 10/02/90 as Document No. 9015414.

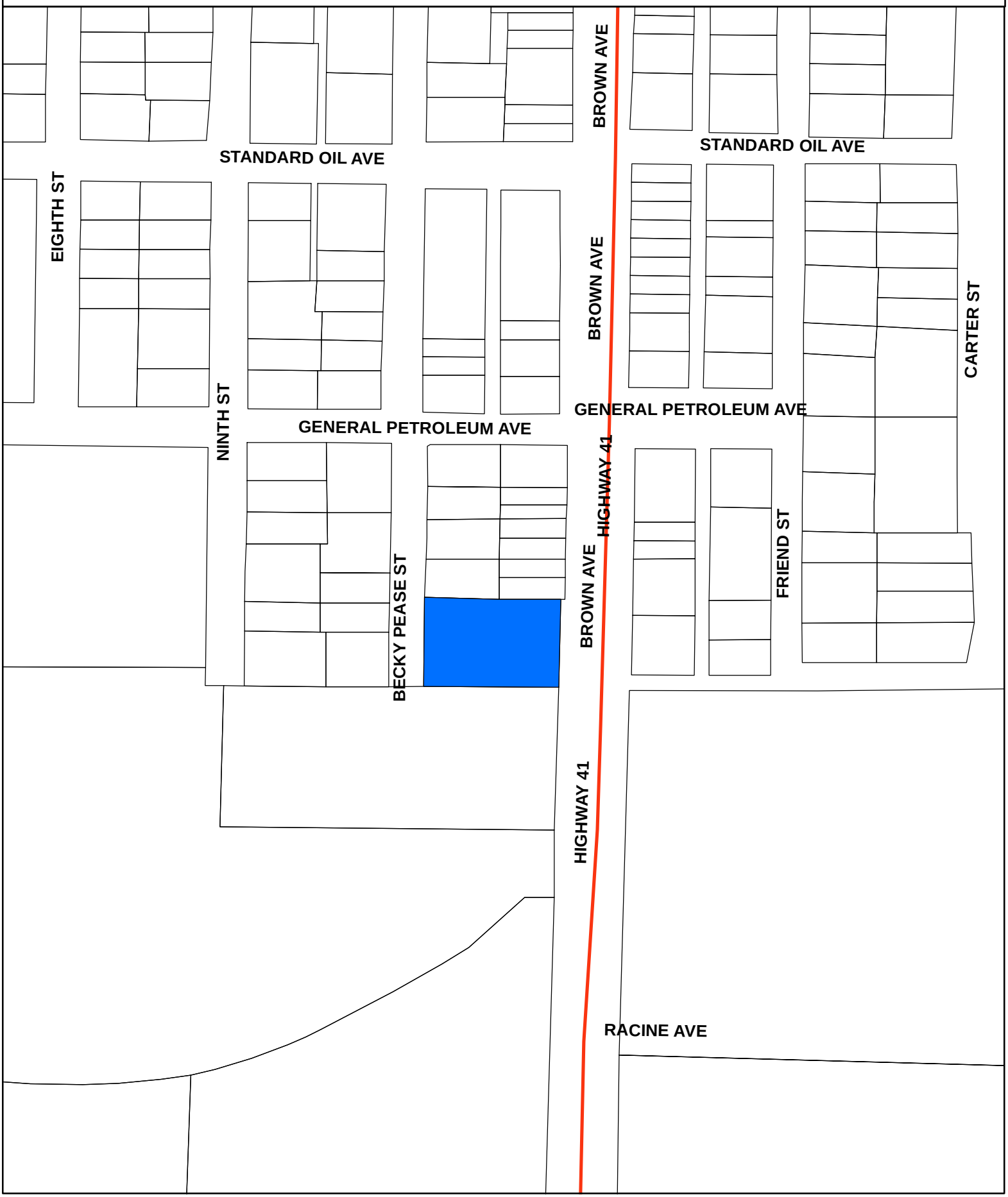
CZDB 16-01
Map Attachment #1
Home Garden Area



CZDB 16-01
Map Attachment #2
Stratford Area



CZDB 16-01
Map Attachment #3
Kettleman City Area



KINGS COUNTY PLANNING COMMISSION
STAFF REPORT

Conditional Use Permit No. 15-03
Development Code No. 668
September 12, 2016

APPLICANT/PROPERTY OWNER: Java Solar, LLC, 1414 Harbour Way South, Suite 1901, Richmond, CA 94804

LOCATION: The project site is located at 16741 20th Avenue, Lemoore, CA, Assessor's Parcel Numbers (APNs) 024-170-010 and 011. The project facilities would be located 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford.

GENERAL PLAN DESIGNATION: General Agriculture (AG-20)

ZONE DISTRICT CLASSIFICATION: General Agricultural (AG-20)

CONDITIONAL USE PROPOSED: Java Solar, LLC, proposes to develop the Java Solar Project, a 15-megawatt (MW) alternating current (AC) photovoltaic (PV) solar generating farm, access driveways, electrical interconnection, and project substation to be constructed on approximately 96 acres of agricultural lands in unincorporated Kings County.

Java Project components would include access driveways, solar modules, tracker components, direct current (DC) to AC power inverters, medium voltage transformers, a medium voltage collection system, a project substation, and the installation of some additional interconnection equipment at the existing Pacific Gas and Electric (PG&E) Leprino Switching Station as illustrated on the project Site Plan. The Java Project will utilize the existing 115-kilovolt Henrietta Solar Project generation intertie line (Henrietta Gen-tie line), which runs through the project site.

CURRENT USE OF SITE: The Java Project site comprises all of assessor's parcel numbers (APNs) 024-170-010 and 024-170-011. The area contains no remarkable elevation contours, it is at an elevation of 191-202 feet, and is on flat agricultural land with a California Farmland Mapping and Monitoring Program (FMMP) designation of Farmland of Statewide Importance. In the past, APN 024-170-010 consisted of grain and row crops, such as cotton, tomatoes, and alfalfa, and was tilled regularly for weed, pest, and fire control purposes; however, in recent years, it has been dry farmed or has been fallow. APN 024-170-011 is a failed pomegranate orchard and the northern portion is fallowed. Neither parcel has a source of agricultural water supply.

LAND USE
SURROUNDING SITE:

The Java Project site is located in unincorporated Kings County, California, in the southern portion of the San Joaquin Valley within Section 33, Township 19 South, Range 20 East, Mount Diablo Base & Meridian. The area is bordered by agricultural land to the north and east, evaporation basins and SR-41 to the west, and the Henrietta Solar Project to the southeast. Poultry facilities are located south, east, and southeast of the Java Project site. A dairy facility is located northeast of the Java Project site. The Recurrent Energy (RE) Kansas Solar Project is located to the northwest, the RE Kansas South and RE Lincoln Solar Projects are located to the southwest, and the Lemoore 14 ImMODO Solar Project is located to the northeast of the Java Project site.

This region is characterized by a history of farming, ranching, and oil exploration. The Java Project site parcels are under private ownership and used for limited agriculture. The southern portion of the site is on land under a 20-year Farmland Security Zone Contract, also referred to as a Super Williamson Act contract; however, according to Figure RC-13 of the *2035 Kings County General Plan*, the site is not located on High Priority agricultural land. In 2013, the Kings County Board of Supervisors adopted Resolution 13-058, which recognizes that, due to surface water deliveries, poor groundwater quality, severe groundwater overdrafts, impaired soil conditions, and regulatory burdens; much of the land in the region west of SR-41 is incompatible with more intensive agricultural uses. Although the Java Project site is located just east of SR-41, on the other side of the highway from the area described in the Resolution, the site exhibits similar agricultural limitations (including lack of an agricultural water supply and impaired soil conditions). Plans for continued agricultural activities would include the practice of grazing sheep to utilize the forage produced under and between the PV arrays.

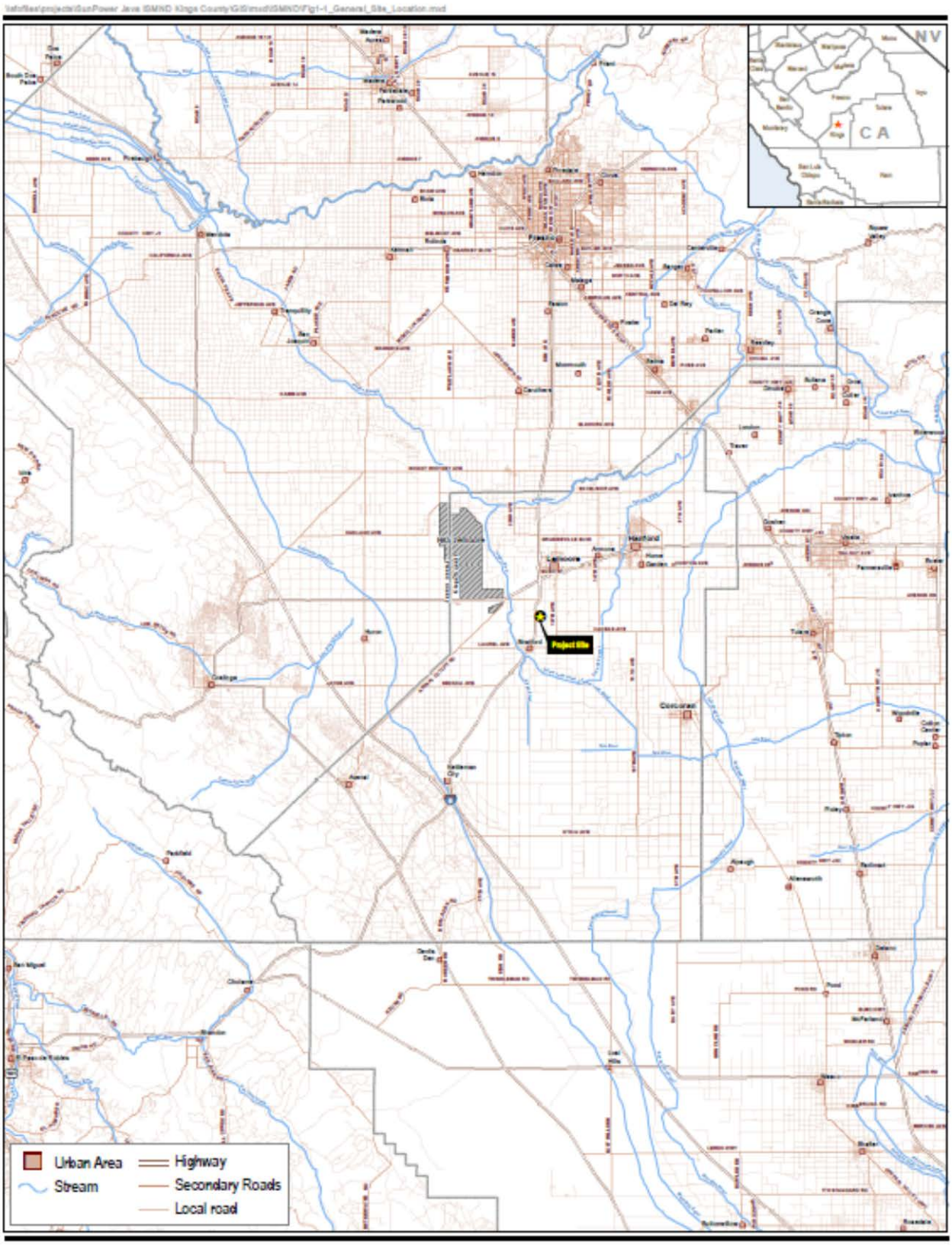
Due to the remoteness of the Project site, sensitive receptors within one mile of the site include scattered residences. There are no hospitals or schools within one mile of the site. Table 1-1 of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Project includes a list of sensitive receptors.

ENVIRONMENTAL REVIEW:

The IS/MND for the 15 MW Java Solar Project was circulated for public review from July 8, 2016, through August 8, 2016. Comments were received before the end of the public review period from Caltrans and the California Department of Conservation. The comments from Caltrans and the California Department of Conservation are attached to this staff report as Attachment No. 1.

Staff's responses to the comments received during the public review period for the IS/MND, from July 8, 2016, through August 8, 2016, are attached to this staff report as Attachment No. 2. These comments did not result in any changes to the IS/MND. These comments do not identify any significant new impacts, or present significant new information. As a result, per CEQA Guidelines Section 15073.5, recirculation of the Westside Solar Project IS/MND is not required.

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 an insignificant level by implementing the Mitigation Monitoring and Reporting Program, which is attached to the Planning Commission Resolution for this project. There is no evidence in the record that indicates that the Project has potential for adverse effects on wildlife, resources or habitat for wildlife.

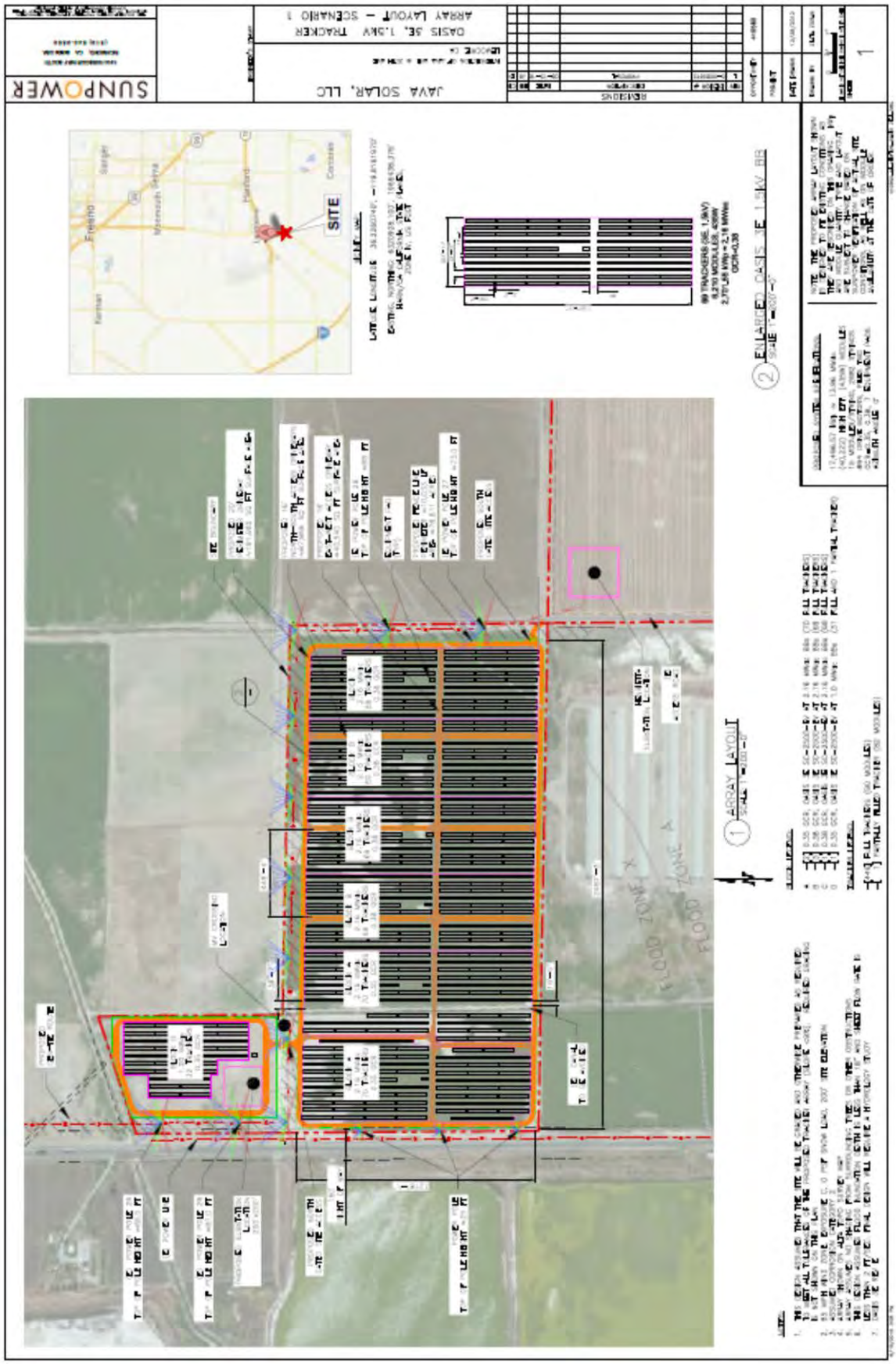


Source: ESRI 2012

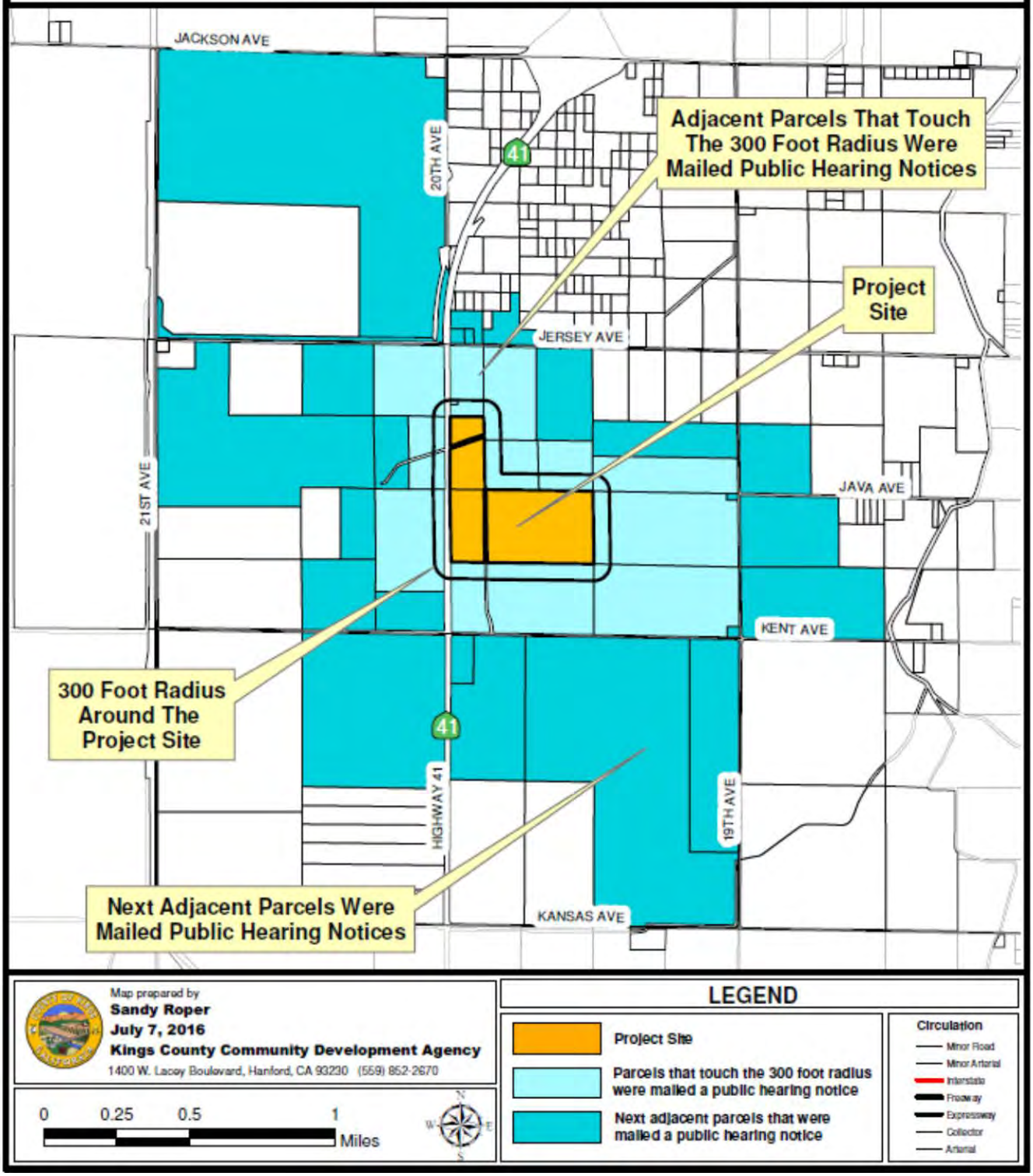
Figure 1-1
Project Vicinity Map
Java Solar Project
Kings County, California

0 5 10
Miles

Site Plan


SUNPOWER
JAVA SOLAR, LLC
OASIS SE, 1.5MW TRACKER
ARRAY LAYOUT – SCENARIO 1
SITE
ARRAY LAYOUT
ENLARGED OASIS SE 1.5MW AC
FLOOD ZONE X

Site Location and Mailing List Map for Conditional Use Permit No. 15-03



DISCUSSION:

Project Overview
Java Solar, LLC, the project sponsor and landowner, proposes to develop, own, and operate an approximately 15-megawatt alternating current (AC) photovoltaic (PV) solar generating farm, access driveways, electrical interconnection, and project substation on approximately 96 acres of agricultural lands in unincorporated Kings County, California. The Java Project requires county approval of a Conditional Use Permit (CUP) under the name of Java Solar, LLC to allow for the construction, operation, and maintenance of such facilities for the long-term generation of clean renewable energy from solar power; electricity would ultimately be sold to a public utility, commercial, or industrial company and distributed for public consumption.

The Java Project facilities would be 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford (see Figure 1-1). The area is immediately east of SR-41 at the Java Avenue intersection.

Project Purpose and Objectives
The Java Project would provide renewable solar energy during periods of high demand and assist the State of California in complying with the Renewable Portfolio Standard (Senate Bill 350) and the Global Warming Solutions Act of 2006 (Assembly Bill 32). The former calls for 50 percent of all electricity sold in California to be generated from renewable sources by the year 2030 and the latter, an overall reduction in the State's greenhouse gas emissions to 1990 levels by 2020. The Java Project represents an additional clean source of electrical power that would supplement energy currently supplied by the existing power grid, thereby reducing the potential for power shortages to occur and decreasing demands on the capabilities of the existing distribution system. The Project sponsor is proposing to construct the Java Project to meet the following objectives:

- Generate up to 15 megawatts (AC) of clean, renewable electrical power utilizing solar PV technology;
- Help implement the State's goals of increased electrical generation with renewable resources and overall reduction in greenhouse gas emissions under California's Renewables Portfolio Standard (SB 350) and Global Warming Solutions Act of 2006 (AB 32);
- Provide for the economically viable and environmentally beneficial use of the site's physically impaired agricultural capacity;
- 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;
- Provide community benefits through increased property tax and sales tax revenues; and
- Develop an economically feasible and commercially financeable project.

PROJECT REVIEW:

June 25, 2015	Application submitted
December 24, 2015	Application certified complete
July 8, 2016	Begin 30-day environmental review period for the proposed IS/MND
August 8, 2016	30-day environmental review period ends for the proposed IS/MND
September 12, 2016	Planning Commission hearing

STAFF ANALYSIS: In order to approve this permit, the Commission is first required to find that:

- The use conforms to the policies of the *General Plan*.
- The use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity.
- The use will comply with applicable provisions of the *Ordinance*.

With regard to these required findings, staff comments that:

1. The proposed Project, as recommended for approval, is consistent with the objectives and the policies of the *2035 Kings County General Plan*, specifically:

   A. Figure LU-11, the Kings County Land Use Map, of the Land Use Element of the *2035 Kings County General Plan* designates this site as General Agriculture (AG-20).

   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 businesses. 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 a manner that remains compatible with other uses within the County. The development of agricultural service and produce processing facilities within the Agricultural areas of the County shall develop to County standards.

   C. Page LU-14, Section III.A.1. of the "Land Use Element" states that the AG-20 designation is applied to rural areas of the county north of Kansas Avenue, excluding the Urban Fringe areas of Hanford and Lemoore, Communities of Armona and Home Garden, the Naval Air Station Lemoore, the Santa Rosa Rancheria Tribal Trust Land, and other small Rural Interface pockets of urban uses. Generally characterized by extensive and intensive agricultural uses, farms within this designation have historically been smaller in size. These areas should remain reserved for commercial agricultural uses because of their high quality soil, natural and manmade waterways, scenic nature with larger concentrations of orchards, vineyards, and valley oak trees.

   D. Page LU-27, Section IV.B of the "Land Use Element" of the *2035 Kings County General Plan* states that the physical development of agricultural properties is regulated and implemented by the 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.

   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 that 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.

   G. Page RC-50, Section G, Objective G1.2 of the "Resource Conservation Element" states that the County will promote the development of sustainable and renewable alternative energy sources, including wind, solar, hydroelectric and biomass energy.

   H. Page RC-50, Section G, Policy G1.2.2 of the "Resource Conservation Element" states the County will encourage and support efforts to develop commercial alternative energy sources in lower priority agricultural lands within Kings County, when appropriately sited.

I. Page RC-51, Section G, Policy G1.2.7 of the "Resource Conservation Element" states the County will require 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 use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity. A Mitigated Negative Declaration has been recommended 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 and Reporting Plan attached to the Planning Commission Resolution for this project as Exhibit "A." On the bases of the whole record (including the initial study and all comments received), there is no substantial evidence that the project will have a significant effect on the environment. The Mitigated Negative Declaration reflects the Planning Commission's independent judgment and analysis.

3. The use complies with the applicable provisions of the ordinance, specifically: The proposed Project, as recommended for approval, <u>is consistent</u> with the *Kings County Development Code*.

A. 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.

(1) Table 4-1 lists solar photovoltaic electrical generating facilities that commercially produce power for sale, which comply with all local, regional, State, and Federal regulations as a conditional use subject to Kings County Planning Commission approval in the General Agricultural (AG-20) zone district.

B. Article 11, Section 1112.B.2 of the *Kings County Development Code* states that in Agricultural Zoning Districts solar photovoltaic electrical facilities for commercial sales and distribution of electrical power shall conform to the following standards:

(1) 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.

a. Approximately 18 acres (APN: 024-170-011) of the 96-acre Java Project site is designated as "Medium Priority" land, and approximately 78 acres (APN: 024-170-010) is designated as "Low Priority" land, as mapped in Figure RC-13 of the Conservation Element of the *2035 Kings County General Plan*. Since the Project would be integrated with a reasonably foreseeable agriculture use on the site, it would satisfy the finding applicable to Medium and Low Priority land. As required under Mitigation Measure (MM) AG-1, the majority of the site would be vegetated with native grasses on at least 90% of the site for dry farm seasonal sheep grazing, in accordance with the Agricultural Management Plan (AMP) to be implemented in conjunction with the Project. As required under MM AG-2 and AG-3, the applicant would be required to prepare a Soil Reclamation Plan and provide Financial Assurance, both of which would be completed and subject to County approval prior to issuance of building permits for the Project.

(2) 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 then 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:

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

An existing 115-kV sub-transmission electrical line is located ¼ of a mile north of the Java Project site and an existing 60-kV sub-transmission line is located ¼ of a mile south of the Java Project site. 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 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 that coincides with the life of the project. Agricultural mitigation on land designed "Medium-High" or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.

a. The majority of the Project 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 the majority of the site area, concomitantly with the solar facility use. This use would represent an improvement over existing conditions on the total acreage of the site, which has not produced crops for the last several years or has produced dry farmed, low value wheat and barley. 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. The AMP, as required under MM AG-1, would ensure the maintenance of seasonal sheep grazing on the site for life of the Project. MMs AG-2 and AG-3 would ensure that 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 nonagricultural use, and no further agricultural mitigation would be required. As such, this finding is not applicable to the Project.

(4) 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.

a. As discussed above, MMs 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 Kings County Community Development Agency prior to the issuance of construction permits. As discussed below in Finding No. 4 concerning Land

Conservation (Williamson) Act Findings, the Java Project site has no surface water rights; therefore, there are no surface water rights to be retained. Based on these facts, the Project would satisfy this finding.

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

a. With the implementation of MM AG-1, the applicant would be required to comply with *Kings County Development Code* requirements for implementing a pest management plan and weed abatement plan. Therefore, the AMP would specify that native seed mixes used to revegetate the project site are free of weeds and would ensure that vegetation is actively managed via seasonal sheep grazing. The perimeter 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 AMP but would be restricted to those considered environmentally safe. The AMP would reduce the potential for pests to inhabit the Project site. The AMP 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, if used, would be selected and used in a manner that minimizes impacts to protected biological species. Since the Project would be required to implement MM AG-1, this finding would be satisfied.

(6) The project shall space internal access driveways per Kings County Fire Department standards.

a. The Java Project would include fire breaks around the site boundary in the form of access driveways subject to County standards. Interior access within the Project site would be provided from site access driveways. The access and interior driveways would be constructed in accordance with Kings County requirements and maintained to facilitate onsite circulation for emergency vehicles during all weather conditions. Therefore, this finding would be satisfied.

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

a. 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 per MM AG-4. 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 (MM AG-4) would satisfy this finding.

(8) 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 or is eligible to be cancelled and shall convert to a solar easement.

a. A portion of the Project site (Assessor's Parcel Number 024-170-010) is subject to a Farmland Security Zone (FSZ) contract, specifically Contract No. FSZ00002 in FSZ No. 0002, recorded December 18, 1998, as Document No. 9827240, Kings

County Records. In addition, a portion of the Project site (Assessor's Parcel Number 024-170-011) is not restricted by either a FSZ contract or a Williamson Act contract. However, as discussed in detail below in Finding No. 4 concerning Land Conservation (Williamson) Act Findings, the Java 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 FSZ contracts.

4. **LAND CONSERVATION (WILLIAMSON) ACT FINDING:**

A portion of the Project site (Assessor's Parcel Number 024-170-010) is subject to a Farmland Security Zone (FSZ) contract, specifically Contract No. FSZ00002 in Farmland Security Zone No. 0002, recorded December 18, 1998, as Document No. 9827240, Kings County Records. In addition, a portion of the Project site (Assessor's Parcel Number 024-170-011) is not restricted by either a FSZ contract or a Williamson Act (WA) contract. The applicant proposes to avoid conflict with the FSZ contract 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.*

The productive agricultural capability of the Project site would be maintained during the life of the Java Project by implementation of an Agricultural Management Plan (MM AG-1) which specifies the ongoing maintenance of 90% vegetative cover over the site for sheep grazing. Further, in this case, the total site, which contains two parcels—one of which is not under FSZ contract—has contained no high value agricultural crops and has been fallow for several years. APN 024-170-010 (the FSZ contracted parcel) has produced dry farmed wheat and barley crops, and APN 024-170-011 (which is not under FSZ contract but contains the same soil types and other limitations as the FSZ contracted parcel) contains a failed orchard that never reached maturity. Therefore, the proposed use represents an improvement in baseline conditions with respect to agricultural uses. Also, 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. In order to ensure that the site is restored to pre-project conditions after decommissioning, the applicant would also be required to implement MM AG-2, which requires implementation of a Soil Reclamation Plan, and MM AG-3, which requires financial assurances. The Soil Reclamation Plan would include detailed provisions on decommissioning, soil conditioning, revegetation, waste recycling/disposal, monitoring, and follow-up measures to ensure that the site has been effectively restored to pre-project conditions. Other agricultural parcels in the vicinity would not be impaired by introduction of the solar use because the site would contain a co-located agricultural use. The site would not contain uses, such as housing developments or office structures that could conflict with adjacent agricultural uses. No residents would be located on the site who would complain about the noise or odors associated with adjacent agricultural uses.

(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.*

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 with 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.

The following is a point by point evaluation of the project's consistency with the above County guidance.

First, the Project site is located adjacent to 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. Over 93% of the soils on the Project site are the same soil types as those in the area west of SR-41 that were identified in the resolution.

Second, MM AG-2 requires the implementation of a Soil Reclamation Plan for the Project, and MM AG-3 requires the provision of financial assurances for implementation of the Soil Reclamation Plan.

Third, MM AG-1 requires the implementation of an AMP that provides for the ongoing agricultural productivity of the site for the life of the Project. The site would be vegetated with grasses and forbs on at least 90% of the site and managed for dry farm seasonal sheep grazing in order to control on site vegetation, (which constitutes a reasonably foreseeable use of the land).

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. According to the Lemoore Canal District, neither of the Project parcels have entitlements to surface water deliveries. For at least the past four years, the Lemoore Canal District has delivered no water to APN 024-170-010. Although the previous owners of APN 024-170-010 owned water shares in the Lemoore Canal District these shares were withheld when the property was sold to the current owner, and the site had received no water deliveries for several years prior to the sale. According to the Lemoore Canal District, the local canal system running through the Java Project site has historically delivered water to agricultural parcels in the Project area; however, the Project parcels do not have entitlements to water deliveries from the district, and the district's water deliveries to other nearby properties have declined steeply in recent years due to ongoing drought conditions throughout California. APN 024-170-010 previously had surface water entitlements but has received no water from the Lemoore Canal District for at least the past four years, and no longer has any entitlements to future deliveries.

Groundwater Availability. The Tulare Lake Subbasin has a surface area of 524,000 acres. Total groundwater storage capacity is estimated at 17 million acre-feet to a depth of 300 feet and 82 million acre-feet to the base of fresh groundwater. Annual urban and agricultural extractions from the subbasin are estimated at 24,000 and 648,000 acre-feet, respectively. In 2006, DWR estimated that annual natural recharge of the subbasin was 89,200 acre-feet per year. Although artificial recharge and subsurface inflow were unknown, annual applied water recharge totals were estimated to be about 195,000 acre-feet. Groundwater wells in the Tulare Lake Subbasin had yields ranging from 20 to 2,000 gallons per minute, with an average range for municipal/irrigation production of 300 to 1,000 gallons per minute. The estimated average specific yield for the subbasin was 8.5 percent. In 1980, five of the seven subbasins within the San Joaquin Valley groundwater system, including Tulare Lake, were identified as being in overdraft. The DWR California Statewide Groundwater Elevation Monitoring Program recently ranked the Tulare Lake Subbasin as high-priority for groundwater monitoring and identified subsidence, overdraft, and water quality degradation as problems within this subbasin. Although still in overdraft, between 2005 and 2010, 53% of water usage in the Tulare Lake Hydrologic Region was met by groundwater. Agricultural uses in the subbasin accounted for an average of 5,550 acre-feet of groundwater use between 2005 and 2010, which amounted to 51% of water used for agricultural purposes. Additional water needs were met by local projects, Central Valley Project, and State Water Project. APN 024-170-010 previously contained grain and row crops, such as wheat and barley, and was tilled regularly for weed, pest, and fire control purposes. The southern portion of APN 024-170-011 is a failed pomegranate orchard and the northern portion is fallowed. In the past, the crops typically grown on the Project site included wheat and barley. Although the parcels were dry farmed and water was not used to produce these crops, in order to maximize crop yields, these crops would typically require approximately 1.5 acre-feet per acre per year of irrigation water, respectively. For comparison, tomatoes and other vegetables require about 1.5 acre-feet per acre per year, and tree crops require 2.5 to 3.0 acre-feet per acre per year, while alfalfa hay requires 3.5 acre-feet per acre per year. Thus, during years with curtailment of surface water deliveries, groundwater pumping does not provide enough water to make up the difference in supporting crops in the region. Overpumping beyond safe yield results in progressive lowering of the water table and is not sustainable. In contrast, during operation, the proposed project would use 0.1 acre-feet of water per year for panel washing, which is substantially less than the amount of water that would be required to produce high value agricultural crops.

Groundwater Quality. According to DWR, groundwater quality throughout the subbasin is generally suitable for most urban and agricultural uses (DWR 2003); however, high salinity levels and the presence of other contaminants, including total dissolved solids have been identified as potential long-term problems for the basin (CVRWQCB 2004). In addition, in 2013, the Kings County Board of Supervisors recognized the limitations of groundwater supplies near the Java Project area.

Soil Conditions. Soils on the Java Project site include Armona loam, Grangeville sandy loam, Homeland fine sandy loam, Lakeside loam, and Lemoore sandy loam (see Figure 3.2-1 of the IS/MND for the Project). According to the NCRS, these soils have Storie Index ratings between 14.7 and 17.7 and are categorized as Grade 5 - Very Poor. In addition, according to the Soil Capability Classification System, even if irrigated, these soils would have moderate to severe limitations, reducing the choice of plants that can be cultivated or requiring special conservation practices. Although these soils would perform better if irrigated, considering the properties' lack of any surface water entitlements and the limited availability of groundwater in the Project area, these soils are classified as having very severe limitations as depicted in Table 3.2-3.

All of these conditions have progressively exacerbated soil salinity levels such that irrigated cultivation will cease to be feasible on the site in the near term future. Due to the limitation of reliable water availability currently available onsite and significant impairment of soil quality, the Project site is not suitable for sustaining long-term agricultural crop production, the reasonably foreseeable agricultural use of the site with or without the Project would be dry land farming with seasonal grazing.

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

Discussion. The Java 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 would include an on-site substation at the southwest corner of APN: 024-170-010. The Project substation would interconnect the Java Project and the existing Henrietta Gen-tie line, which runs along the western edge of the Project substation location. The interconnecting lines would be less than 100 feet long and would be contained entirely on the Java Project site. The Project would not result in the construction of new roadways, beyond internal access driveways within the Java Project site that would provide new vehicular access to adjacent contracted land. Since the Project would not include any excess infrastructure service 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 support facilities.

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 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 urban growth inducement.

As discussed above in the substantiation for the first compatibility findings under Government Code Section 51238.1(a), 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 Java 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 FSZ contract in effect on a portion of the Project site.

5. **FLOOD PLAIN FINDING:**

A. A small portion, approximately 3 acres at the southeast corner, of the Java Project is located within Zone A as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0325C, dated June 16, 2009. Zone A is a Special Flood Hazard Area Subject to Inundation by the 1 percent Annual Chance Flood where no base flood elevations have been determined.

(1). Any future development of structures within Zone A will be subject to standard requirements and the requirements of Chapter 5A of the *Kings County Code of Ordinances.*

a. Any future development will require that the elevation be determined and the project designed according to the criteria of the *Flood Damage Prevention Ordinance* (Chapter 5A of the *Kings County Code of Ordinances*) for any structure constructed on the portion of the site within the flood zone.

B. The majority of the Java Project site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0325C, dated June 16, 2009. There are no development restrictions associated with Other Areas Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

6. **AIRPORT COMPATIBILITY ZONE FINDING:**

A. The project site <u>is not located</u> within an Airport Compatibility Zone.

7. **SEPTIC SYSTEM FINDING:**

A. The Project site <u>is located</u> within an area requiring engineering for any new septic systems that are installed; however, no such system is planned or required for the Java Project since operations workers who visit the site periodically for inspection, maintenance, repair, and panel washing duties would utilize portable chemical toilets that would be serviced by a contractor as needed.

RECOMMENDATIONS:

It is recommended that the Commission approve Conditional Use Permit No. 15-03 as described above and adopt Resolution No. 16-09. Approval of this Resolution will:

1. Find that 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 and Reporting Plan attached to the Planning Commission Resolution as Exhibit "A," and approve a ***Mitigated Negative Declaration***.

2. Find that the project is consistent with the *Kings County General Plan*, *Kings County Development Code*, and the *California Land Conservation Act of 1965 (Williamson Act)*.

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.

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 Sandy Roper of the Kings County Community Development Agency at (559) 852-2685 regarding the following requirements:

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

2. Prior to any ground disturbance, the applicant shall enter into an agreement with the Santa Rosa Rancheria Tachi Yokut Tribe regarding cultural resources and burial treatment and protection, which shall be in a form acceptable to the County, and the applicant shall offer interested Tribes 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.

3. Prior to any ground disturbance, a surface inspection of the project site shall be conducted by an Archaeologist. In addition, an Archaeologist shall monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the project for the Westside Solar Project.

4. 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 Conditional Use Permit.
    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.

5. The development shall comply with all regulations of *Kings County Development Code No. 668*, with particular reference to the General Agricultural (AG-20) Zone District standards contained in Article 4.

6. In order to ensure that fences, walls, gates, hedges, and screening and landscaping do not create traffic hazards at street or road intersections, and where driveways enter streets and roads, the following standards prescribed in Section 418.G. of the *Kings County Development Code* shall be required by the Planning Commission for all new uses and major alterations and enlargement of existing uses. These requirements are to protect public health and safety, conserve water resources, and where appropriate, insulate surrounding land uses from their impact.

   A. 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 the *Kings County Development Code*.

   B. Gates shall be permitted as follows:

      (1) 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:

         a. A minimum distance of 20 feet.

         b. 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.

      (2) 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:

         a. 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.

         b. 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.

         c. 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.

      (3) 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.

   C. General Fencing and Gate Requirements:

      (1) All private, single-family home swimming pools constructed after January 1, 1998 shall be fenced, enclosed or equipped with another safety feature as provided in Sections 115920 – 115927 of the *California Health and Safety Codes*.

      (2) Any fence or wall over seven feet in height is a structure and requires a building permit prior to construction.

      (3) All heights in this Section shall be measured from the finished grade of site or the adjacent property, which-ever is lower.

      (4) Fences, walls, hedges, gates, walks, driveways and retaining walls may occupy any required yard or other open spaces, subject to the limitations prescribed in the district regulations.

   D. Screening Requirements: Storage of materials attendant to a permitted use requiring a Site Plan Review, or Conditional Use permit which are not specifically permitted to be stored within public view pursuant to an approved use permit, and are not completely enclosed in a structure, when

located on a site abutting on or across a street or alley from an RR, R, RM or MU Zoning District shall be screened by a solid fence or masonry wall or compact growth of natural plant materials not less than six feet in height, provided that no materials or equipment shall be stored to a height greater than that of the wall or fence.

E. Landscaping: Landscaping is generally not required in these zoning districts however, as stated in Article 15 of the *Kings County Development Code*, 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". See Article 15 of the *Kings County Development Code* for additional information concerning specific landscaping requirements.

7. Pursuant to Section 418.H of the *Kings County Development Code*, signs in Agricultural Zoning Districts shall be allowed in compliance with the regulations contained in Article 14, and as prescribed in Table 4-3 of the *Kings County Development Code*. All 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 feet in height. Unless a different setback is specified for a particular zoning district, the minimum setback distance for all signs over three feet in height shall be ten feet from property lines.

8. Pursuant to Section 418.I of the *Kings County Development Code*, all uses shall be subject to the general provisions and exceptions prescribed in Article 1.

9. Pursuant to Section 418.J of the *Kings County Development Code*, exterior lighting should 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.

10. Pursuant to Section 418.K 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.

11. A minimum of four (4) off-street parking spaces shall be provided and that such parking shall be installed in accordance with the *Kings County Improvement Standards*.

12. 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 Cutback Asphalt over four (4) inches of Decomposed Granite under the "Rural Alternative." (Note: The Kings County Zoning Administrator 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.)

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 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.

17. 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 direct to David Sholes at (559) 445-6279.

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

19. 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.

20. 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 Planning Commission Resolution No. 16-09 is adopted.

21. Sales or use 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.

22. 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. The plan shall contain an analysis of pre-project baseline soil conditions, and shall contain specific measures to restore the soil to its pre-project condition, including removal of all fixtures, equipment, non-agricultural driveways, and restoration of compacted soil. Reclamation shall be completed within six months of the expiration of the use permit.

23. 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 Reclamation Plan. An Updated Engineer's Cost Estimate shall be submitted by the applicant every 5 years so that the financial assurances for the Reclamation Plan can be reviewed every 5 years by the Kings County Community Development Agency to determine if finances are sufficient to perform reclamation of the Project. The financial assurance must be adjusted if, during the five year review, finances are determined to be insufficient to perform reclamation of the Project.

24. Additional annual service impact fees affecting the Kings County Fire and Sheriff departments will not be billed to the applicant. Instead, the applicant will be responsible to pay for services rendered by the two departments during times of emergency when services are provided.

25. All mitigation measures in the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Plan that pertain to CUP No. 15-03 are adopted as conditions of this approval, and included in the Conditional Use Permit.

26. 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.

27. 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) 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.

28. 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.

OTHER AGENCY'S COMMENTS, STANDARDS, AND REGULATIONS:

The following departments and agencies have provided comments, standards, and regulations concerning the proposed project. The Planning Commission has no authority to modify, amend, or delete any of these comments, standards, and regulations but lists them here as information to the applicant. Appeals for relief of other agency's standards and regulations must be made through that department's or agency's procedures, not through the Development Code procedures. However, the applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and the Environmental Heath Services Division of the Health Department, and all other local and state regulatory agencies. Failure of the applicant to comply with all adopted standards and regulations of all other local and state regulatory agencies is a violation of this conditional use permit (see Planning Division Condition No. 18 above) 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 comments:

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 Sate of California shall be required for all structures.

4. 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.

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

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

7. 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.

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

9. The site is located within a Special Flood Hazard Area. The proposed development shall meet the requirements of the Kings County Code of Ordinances, Chapter 5A, Flood Damage Prevention.

10. The facility shall meet the requirements of the State of California Model Water Efficient Landscape Ordinance. If landscaping is proposed then landscape and irrigation plans shall be provided to the Community Development Agency for review and approval prior to building permit issuance.

11. All construction shall conform to the 2013 California Building Standards Code (or current adopted edition) which consists of the California Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Energy Code, California Fire Code and California Green Building Standards Code.

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

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. The applicant shall secure an encroachment permit for any work in the County right-of-way.

4. Durable and dustless drive lanes shall be constructed.

5. No private overhead lines shall be placed within the Right-of-Way.

KINGS COUNTY FIRE DEPARTMENT: Contact Rick Smith of the Kings County Fire Department at (559) 852-2885 for the following comments:

1. Fire Department requires a Knox box or other approved system to store and secure keys for any fence or buildings within the property.

2. Architects, Engineers and Designers shall provide detailed plans for review of the project and shall meet with the Fire Marshal in a timely manner upon his request for clarification of any issues.

3. Solar fields shall comply with *Kings County Development Code* Section 1112.B.2 and the *California Fire Code*.

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

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

1. 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.

2. 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 at with any questions regarding proper management and reporting of hazardous wastes, such as waste oil/filters, associated with this operation.

3. The facility will be subject to the California Aboveground Petroleum Storage Act (APSA) if 1,320 gallons or more of petroleum products such as fuel will be stored on site. If this is the case the facility must contact our office for additional information.

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. Portable toilets must be serviced at an adequate frequency so as not to create nuisance conditions.

5. Three copies of any septic system plans proposed for the site must be submitted to our office for review and approval prior to construction of the system.

6. Given the proximity of LNAS 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, *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 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) 230-5937 or by email at georgia.steward@valleyair.org concerning the following comments:

1. Based on information provided to the District, project specific emissions of criteria pollutants are not expected to exceed District significance thresholds of 10 tons/year NOx, 10 ton/year ROG, and 15 tons/year PM10. Therefore, the District concludes that project specific criteria pollutant emissions would have no significant adverse impact on air quality.

2. Based on information provided to the District, the proposed project would exceed the applicability threshold within District Rule 9510 (Indirect Source Review) of 9,000 square feet of other land uses. Therefore, the District concludes that the proposed project is subject to District Rule 9510. District Rule 9510 is intended to reduce a project's impact on air quality through project design elements or mitigate its impact by payment of applicable off-site mitigation fees.

   The District recommends that demonstration of compliance with District Rule 9510, including payment of all applicable fees, be made a condition of project approval.

3. The proposed project may be subject to District Rules and Regulations, including: but not limited to: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). The proposed project may also require District permits. The applicant is strongly encouraged to contact the District prior to the start of construction to identify other District regulations that apply to this project and determine if an Authority to Construct (ATC) is required. District's Small Business Assistance (SBA) staff can be reached by phone at (559) 230-5888. A complete list of current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

4. The District recommends that a copy of the District's comments be provided to the project proponent.

UNITED STATE DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE (USFW): Contact Tim Ludwick (timothy_ludwick@fws.gov) or Thomas Leeman, Chief, San Joaquin Valley Division (thomas_leeman@fws.gov) at (916) 414-6551 or (916) 414-6544 concerning the following comments:

1. According to the site description, the lands within the Project are composed of former irrigated row crop agriculture, orchard, and fallowed land. This type of agricultural activity does not preclude uses of the site by wildlife species. The federally-listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), blunt-nosed leopard lizard (*Gambelia sila*), and Buena Vista Lake shrew (*Sorex ornatus relictus*) have all been documented near the site. Although no site-specific data is available, upland habitats could support the fox, kangaroo rat, and lizard. The background information states that the Project will impact an irrigation canal across the site. This canal could provide habitat for the shrew. Additionally, the county should consult IPaC (http://ecos.fws.gov/ipac/) to obtain a full list of federally-listed species that may occur on the project site. The provided information includes several measures that may be used to minimize effects from the Project. While these measures may reduce the potential for incidental take on the Project, take may still result during the implementation of the Project. The Service recommends that protocol-level surveys be

conducted for all federally-listed species that could occur on the Project site in order for the county to perform a meaningful effect analysis and implement the appropriate conservation measures for these species.

2. Section 9(a)(1) of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

3. Development of the proposed Project could result in take of listed species and their habitat by any of the definitions outlined above. Take of both habitat and species could occur at all stages of Project development. Any take that could occur as a result of the Project would require consultation with the Service under Section 7 or Section 10 of the Act in order to not be in violation of the Act.

PREPARATION:

Prepared by the Kings County Community Development Agency (Sandy Roper) on August 26, 2016. Copies are available for review at the Kings County Community Development Department, Government Center, Hanford, California, or at the Kings County Clerk's Office, Government Center, Hanford, California.

Attachments to the Staff Report:

1. Comments on the IS/MND
   - Caltrans
   - California Department of Conservation
2. Responses to Comments

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 6
1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
PHONE (559) 445-6035
FAX (559) 445-5875
TTY 711
www.dot.ca.gov

Serious drought.
Help save water!

July 28, 2016

KIN-41-36.181
CUP 15-03 Java Solar

Ms. Sandy Roper
Principal Planner, County of Kings
1400 W. Lacey Blvd.
Hanford, CA 93230

Dear Ms. Roper:

Thank you for the opportunity to review the Initial Study/Mitigated Negative Declaration for the proposed Java Solar Project. The project proponent proposes to develop, own, and operate an approximately 15-megawatt alternating current photovoltaic solar generation farm on approximately 96 acres site. The facility would be immediately east of State Route (SR) 41 near the Java Avenue Intersection in Kings County. It is approximately 3.5 mile south of Junction SR 41 and SR 198. Based on the information provided, Caltrans has the following comments: DOT-1

No direct access from SR 41 is allowed. The project site shall use Java Avenue for access. The intersection of SR 41 and Java Avenue should be improved for access for large vehicles. Southbound left-turn and northbound right-turn lane on SR 41 should be constructed for the project site during construction and for project operation. According to the Caltrans Transportation Concept Report, SR 41 at this location is planned to be a 4-lane conventional highway with ultimate 160 feet right of way (ROW). Therefore, an irrevocable offer of ROW along SR 41 frontage should be made to Caltrans to accommodate that configuration. An encroachment permit from the Caltrans District 6 Permits Office will be required for any works done within State right-of-way. All works shall be constructed in accordance with the Caltrans Highway Design Manual and Caltrans Standard Plans. DOT-2

Under state law Caltrans has discretionary approval authority, as provided in Section 670 of the Streets and Highway Code, to approve projects that encroach on the State's highway right of way. This discretionary authority gives Caltrans a "Responsible Agency" status under the California Environmental Quality Act (CEQA) for the part of a project that requires work within the State's highway right of way. If work will occur within Caltrans right of way along SR 41, Caltrans needs to be identified as a Responsible Agency. For purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have discretionary approval power over the project. DOT-3

This project has the potential to excavate aerially deposited lead (ADL)-contaminated soil for work on State Route 41. A project specific study for heavy metals (CAM 17) is recommended. California Administrative Manual (CAM) is also known as the California Code of Regulations (CCR). CCR Title 22 section 66261.24 specifies the 17 metals that can qualify as hazardous waste. ADL contaminated soil still exists along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. The highest lead concentrations are usually found within 10 feet of the edge of the pavement and within the top six inches of the soil. In some cases, the lead is as deep as two to three feet below the surface and can extend 20 feet or more from the edge of pavement. It is recommended that the lead agency conduct sampling and analysis to adequately characterize the soils for potential aerially deposited lead, or any other contaminants in the areas of planned excavation along the project route, specifically within Caltrans right of way along SR 41. Proper soil management activities as it applies to the excavation, stockpiling, disposal, tracking, transportation and final placement of any ADL-contaminated soil will need to be addressed. DOT-4

Section 1.8.4, Construction Traffic section states that during construction an average of 90 workers would commute to the project site and there would be an additional 136 roundtrips per day for materials and equipment (226 roundtrips per day). Furthermore, during peak construction there will be up to 120 worker roundtrips and 180 materials and equipment roundtrips (300 roundtrips per day). The applicant then states that they would implement standards to comply with the San Joaquin Valley Air Pollution Control District to have fewer than 250 trips per day on unpaved roads. How will fewer than 150 roundtrips per day be accomplished when it is anticipated that the construction of the project will require between 226 and 300 roundtrips per day? This question needs to be addressed. DOT-5

It does not appear that the environmental document covers the proposed work on State Route 41. A thorough analysis and supplemental environmental document may need to be prepared by the lead agency before an encroachment permit is issued for work on SR 41. The lead agency is encouraged to contact Shane Gunn, Caltrans Branch Chief, Environmental Analysis before finalizing the IS/MND. DOT-6

An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit. Please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at (559) 488-4058. DOT-7

The Permits Department and the Environmental Planning Branch will review and approve the activity and work in the State right of way before an encroachment permit is issued. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section DOT-8

671.5, "Time Limitations." (Revision: 02/23/05) If the estimated cost of the improvements exceeds $1,000,000, within the State right of way, the project will be considered a "special funded project" and Project Development Branch will assume responsibility including obtaining permits, preparing co-op and improvement agreements. Encroachments are subject to removal by the Department in accordance with Sections 673 and 720 of the Streets and Highways Code. DOT-8 (cont.)

Dust control measures shall be implemented on the site in a manner to prevent dust from entering the State right-of-way. DOT-9 Work within State Highway right-of-way shall be conducted in compliance with all applicable requirements of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Department of Transportation (Department), to govern the discharge of storm water and non-storm water from its properties. Compliance with the Departments NPDES permit requires amongst other things, the preparation and submission of a Storm Water Pollution Protection Plan (SWPPP), or a Water Pollution Control Program (WPCP), and the approval of same by the appropriate reviewing authority prior to the issuance of an encroachment permit. DOT-10

If right of way is dedicated to the State because of the project or the work proposed in the State right of way, it will need to be dedicated and conveyed to the State (in a form approved by the State) before an encroachment permit is issued for any work in the State right of way. DOT-11 No advertising signs are allowed in or over the State right of way. A sign permit may be required for advertising signs adjacent to and visible from the State highway right of way. DOT-12 Landscape and irrigation should be kept outside of the State right of way. If not, a landscape and maintenance agreement is required between the Department and the local jurisdiction for the landscape and irrigation proposed before an encroachment permit is issued. DOT-13

Please address the above comments. If you have any further questions, contact Dean Meester at (559) 445-5763.

Sincerely,

Marta Frausto, Acting Chief
Planning South Branch

State of California • Natural Resources Agency
Department of Conservation
Division of Land Resource Protection
801 K Street • MS 14-15
Sacramento, CA 95814
(916) 324-0850 • FAX (916) 327-3430

Edmund G. Brown Jr., *Governor*
Benjamin Turner, *Acting Assistant Director*

August 8, 2016

VIA EMAIL: SANDY.ROPER@CO.KINGS.CA.US
Mr. Sandy Roper, Principal Planner
Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, CA 93230

Dear Mr. Roper:

JAVA SOLAR PROJECT, CONDITIONAL USE PERMIT #15-03, COMMERCIAL SOLAR ON LAND RESTRICTED BY A FARMLAND SECURITY ZONE CONTRACT, SCH #2016071020

The Department of Conservation (Department) has reviewed the Conditional Use Permit/Mitigated Negative Declaration submitted by the County of Kings (County). The Department monitors farmland conversion on a statewide basis and administers the Williamson Act, California Farmland Conservancy Program, and other agricultural land conservation programs. The Department offers the following comments and recommendations with respect to the proposed project's impacts on agricultural land and resources. DOC-1

PROJECT DESCRIPTION

The proposed project would establish a 15 megawatt alternating current photovoltaic solar generating facility, access driveways, electrical interconnection, and project substation on approximately 96 acres of agricultural lands. The project site is located at 16741 20th Avenue, Lemoore, CA. The site is further identified as assessor's parcel numbers (APN) 024-170-010, & 024-170-011.

The project would occupy approximately 96 acres of Farmland of Statewide Importance as classified by the Department's Farmland Mapping and Monitoring Program[1]. "APN 024-170-010 previously contained grain and row crops, such as wheat and barley, and was tilled regularly for weed, pest, and fire control purposes. The southern portion of APN 024-070-011 is a failed pomegranate orchard and the northern portion is fallowed."[2]

DEPARTMENT COMMENTS

A portion of the project site (APN 024-070-010) is currently restricted by a Farmland Security Zone (FSZ) contract. Government Code section 51296 enables local governments to enter into FSZ contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or compatible uses. In return, restricted parcels are assessed for property tax DOC-2

[1] Department of Conservation, Farmland Mapping and Monitoring Program, 2014, http://maps.conservation.ca.gov/ciff/ciff.html
[2] Ecology and Environment, Inc., Java Solar Project Initial Study/Mitigated Negative Declaration, Agriculture and Forestry Resources, July 2016, 3.2-1

purposes at a rate consistent with their actual agricultural and/or open space use, as opposed to potential market value.

The Department recognizes that solar facilities are an important component of California's energy portfolio that help meet the state's renewable energy requirements. In order to facilitate this goal in a manner that complies with the Williamson Act, the Department recommends that the portion of the land where the solar facility will be constructed be removed from the FSZ contract. The removal can be accomplished through either the cancellation process or enrollment in a Solar-Use Easement. Information on both processes is available on the Department's website.[3] DOC-2 (cont.)

CONCLUSION

Thank you for giving us the opportunity to comment on the Java Solar Project. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Environmental Planner at (916) 324-7347 or via email at Farl.Grundy@conservation.ca.gov. DOC-3

Sincerely,

Meri A. Meraz
Conservation Program Support Supervisor

cc: State Clearinghouse

[3] http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx

RESPONSES TO COMMENTS FROM THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, DATED JULY 28, 2016

DOT-1 **Summary of Comment**. The commenter, representing the Department of Transportation (Caltrans), summarizes the main features of the proposed project.

Response. Thank you for your introductory comments and descriptions. No further response is required.

DOT-2 **Summary of Comment.** The commenter states that no direct access from SR 41 is allowed, the SR 41/Java intersection needs to be improved to accommodate large vehicles, right-of-way (ROW) needs to be dedicated for planned expansions, and an encroachment permit is required for any work in a state ROW.

Response. The applicant has modified the location of their primary construction and operations access point. For construction, the applicant no longer proposes to use SR 41 or Java Avenue as the primary point of access. Instead, the applicant proposes to use Kent Avenue to access the site from the southeast corner of APN 024-170-010 via an existing access driveway used during the recent construction of the adjacent Henrietta Solar Project. Large vehicles would use the Kent Avenue/SR 41 intersection and drive east on Kent Avenue to access the existing driveway. The types of equipment and load sizes would be similar for the Java Project as for the Henrietta Project. Therefore, the Kent Avenue/SR 41 intersection already accommodates the size of trucks and turning radiuses that would be required to make deliveries to the Java Project site, and no additional upgrades related to construction site access would be required in a Caltrans right-of-way (ROW). During operations, the applicant may use Java Avenue as a secondary access point; however, this existing driveway already accommodates light vehicles and equipment similar to the types of equipment that would be required for occasional maintenance, panel washing, and security patrols. Therefore, any operational uses of Java Avenue are consistent with existing uses, and no improvements would be required.

The commenter's future planned widening of SR 41 to a four-lane road is not an environmental impact of the proposed solar Project. Therefore, the dedication of additional ROW for that future highway widening is not a mitigation measure for Project impacts and is not addressed in this CEQA document.

The following corrections have been made to the IS/MND:

Section 1.8.4, Page 1-13

~~Primary access to the Java Project site would be provided via SR 41, a two-lane, fully surfaced regional transportation route. The access driveway at the intersection of SR 41 and Java Avenue would include construction of turn pockets for exit and entry onto SR 41 to facilitate the delivery of equipment and personnel to the project site during construction and for project operations. An additional access driveway from SR 41 may be needed to access the northern portion of APN 024-170-011. The turn pockets would be constructed with 6 to 8 inches of aggregate base course to be designed according to project and the California Department of Transportation (Caltrans) specifications. The site access driveways would be paved up through the site access gate at the end of construction.~~

Primary access to the Java Project site during construction and operations would be provided via an existing access driveway located off of Kent Avenue. This driveway was recently used during construction of the adjacent Henrietta Solar Project and provides access to the Java Project site at the southeast corner of APN 024-170-010. Minor improvements to the existing access driveway may be required at the site boundary for ingress/egress onto the Java Project site. No improvements to public roads are required for this construction access. During operations, the site would be accessed via this same access driveway or via Java Avenue. No additional improvements would be required to accommodate operational vehicles.

Section 1.10, Page 1-19

- ~~*California Department of Transportation Encroachment Permit.* An encroachment permit would be required for installation of ingress egress lane along SR-41 and the installation of the telecommunication line if required.~~

Section 3.16.2, Page 3.16-10

The temporary changes needed for construction (and decommissioning) would consist of the addition of access driveways to allow ingress/egress onto the Java Project site at the southeast corner of APN 024-170-010 and internal circulation.

Section 3.16.2, Page 3.16-11

In addition, access driveways for the Java Project also would be consistent with state regulations, as well as local regulations. ~~Access driveways would be constructed in accordance with California Department of Transportation (Caltrans) specifications, and the turn pockets would be constructed according to these standards.~~

Section 3.16.2, Page 3.16-14 to Page 3.16-15

~~Potential entrances to the Java Project site would be built on SR-41 or from Kent Avenue in accordance with Kings County improvement standards. These new entrances would result in turning movements in and out of the Java Project site and thereby create some potential for interaction with vehicles travelling along the state route or Kent Avenue; however, line-of-sight would be clear due to the flat terrain and absence of visual obstructions from either roadway. Site construction and operation vehicles would be of a type consistent with agricultural and other vehicles currently using roads affected by the Java Project. In addition, MM TR-1 would reduce any impact associated with safety concerns by requiring that the applicant consult with Caltrans and/or the County, ensuring that equipment does not block emergency access. Therefore, with the implementation of MM TR-1, the impact would be less than significant.~~

During construction, an entrance to the Java Project site would be built at the southeast corner of APN 024-170-010 to connect with the existing access driveway originating at Kent Avenue in accordance with Kings County Improvement Standards. The Kent Avenue/SR-41 intersection and the intersection of the access driveway and Kent Avenue already accommodate the turning radius of large delivery vehicles because they recently accommodated vehicles of the same size and type during the construction of the Henrietta Solar Project. Further, site construction and operation vehicles would be of a type consistent with agricultural and other vehicles

currently using roads affected by the Java Project. In addition, MM TR-1 would reduce any impact associated with safety concerns by requiring that the applicant consult with Caltrans and/or the County, ensuring that equipment does not block emergency access. Therefore, with the implementation of MM TR-1, the impact would be less than significant.

DOT-3 **Summary of Comment.** The commenter summarizes their approval authority for projects that encroach on the State's ROW and requests "Responsible Agency" status.

Response. Per the response to DOT-2, the primary access point for the Java Project site would be from Kent Avenue and not Java Avenue or SR 41, and no road improvements within the Caltrans ROW are contemplated. Therefore, Caltrans would not be considered a Responsible Agency for the Java Project.

DOT-4 **Summary of Comment.** The commenter describes the potential for projects within Caltrans ROW and within 10 feet of the edge of the pavement to contain aerially deposited lead (ADL)-contaminated soil and recommends mitigation.

Response. Per DOT-2, the applicant would not conduct work within the Caltrans ROW or within 10 feet of the edge of any paved road. Therefore, there would be no impacts associated with ADL-contaminated soil.

DOT-5 **Summary of Comment.** The commenter restates the number of roundtrips required on average and during peak construction from the IS/MND and points out a conflict in the IS/MND regarding the applicant's estimated truck trips and their standard construction practice of maintaining fewer than 150 roundtrips per day on unpaved roads.

Response. Section 1.8.4 included some of the applicant's standard construction practices, which includes having fewer than 150 trips on unpaved roads, when practicable. The County acknowledges the conflict between the applicant's estimated traffic counts for this project and their standard construction practices. Emissions related to vehicle travel on both paved and unpaved roads are analyzed in Section 3.3, "Air Quality," and are based on the applicant's estimated traffic counts (a maximum of 300 roundtrips) and not on a maximum of 150 roundtrips. All impacts would be less than significant, less than significant with mitigation, or no impact. Although impacts would not be significant, the applicant is nonetheless required by law to prepare and submit a Dust Control Plan to the SJVAPCD per Sections 1.10 and 3.3. In addition, the applicant would comply with SJVAPCD Regulation VIII as described in Section 3.3, which would further reduce impacts.

The following changes have been made for clarification.

Section 1.8.4, Page 1-14

- ~~Construction would comply with San Joaquin Valley Air Pollution Control District standards for unpaved driveways, which include a requirements to keep vehicle speeds below 15 miles per hour and to have fewer than 150 trips per day per unpaved road.~~

DOT-6 **Summary of Comment.** The commenter reiterates previous concerns about SR-41.

Response. See response to comment DOT-2.

DOT-7 **Summary of Comment.** The commenter reiterates previous concerns about SR-41 and describes details related to encroachment permits.

Response. See response to comment DOT-2.

DOT-8 **Summary of Comment.** The commenter reiterates previous concerns about SR-41 and describes details related to encroachment permits.

Response. See response to comment DOT-2.

DOT-9 **Summary of Comment.** The commenter states that dust control measures shall be implemented on the site.

Response. Per response to comment DOT-5, the applicant will prepare and implement a Dust Control Plan, which will be approved by the SJVAPCD prior to construction. For additional information related to the Dust Control Plan, see MM AQ-1 in Section 3.3.2, "Air Quality."

DOT-10 **Summary of Comment.** The commenter states that work within the Caltrans ROW shall be conducted in compliance with all National Pollutant Discharge Elimination System (NPDES) permit requirements. The commenter also states that preparation and submission of a Storm Water Pollution Protection Plan (SWPPP) would be required.

Response. Although no work is contemplated within the Caltrans ROW (see response to comment DOT-2), the applicant is nonetheless required to comply with all NPDES and SWPPP requirements per Section 1.10. For details related to NPDES and SWPPP requirements, see Section 3.9.2, Impact "a," and MM HYD-1.

DOT-11 **Summary of Comment.** The commenter reiterates previous concerns about SR-41 and describes details related to acquisition of an encroachment permit.

Response. See response to comment DOT-2.

DOT-12 **Summary of Comment.** The commenter states that no advertising signs are allowed in or over the State ROW and that a sign permit might be required.

Response. No advertising signs would be erected as a result of the Project. Therefore, no sign permits would be required.

DOT-13 **Summary of Comment.** The commenter states that landscaping and irrigation should be kept out of the State ROW and that a maintenance agreement might be required.

Response. No landscaping or irrigation would be placed in the State ROW as a result of the Project. As such, a landscape and maintenance agreement between Caltrans and the applicant would not be required.

RESPONSES TO COMMENTS FROM THE CALIFORNIA DEPARTMENT OF CONSERVATION, DATED AUGUST 8, 2016

DOC-1 **Summary of Comment**. The commenter, representing the Department of Conservation (DOC), provides introductory comments and summarizes the main features of the proposed project.

Response. Thank you for your introductory comments and descriptions. No further response is required.

DOC-2 **Summary of Comment**. The commenter states that APN 024-070-010 [sic] is restricted by a Farmland Security Zone (FSZ) contract and recommends that the portion of the land that would contain the Java Project be removed from the FSZ contract via either the cancellation process or enrollment in a Solar-Use Easement.

Response. Although the Java Project would be located on impaired agricultural soils, and thus does not support high value agricultural crops (see Section 2.2, "Agriculture"), sheep grazing would be a productive agricultural use of the Java Project site, as a concomitant use to the solar generation use of the site. The sheep grazing activity on the site is intended for the production of food and fiber for commercial purposes and, therefore, meets the definition of an agricultural commodity and is compatible with the FSZ contract. This use would represent an improvement in agricultural use compared to existing conditions on the total acreage of the site, and thus would not be considered a conversion of farmland to a non-agricultural use.

The commenter has offered no evidence that a solar electrical facility is incompatible with the Williamson Act. Government Code Section 51201, subdivision (e) defines the term "compatible use" to mean "any use determined by the county or city administering the preserve . . . to be compatible with the agricultural . . . use of land within the preserve and subject to contract." Under this definition, a use need not be "directly related" to agricultural production so long as it is compatible. Instructively, the Legislature has determined explicitly that on non-contracted land within agricultural preserves, electrical facilities, such as the one proposed here, are necessarily compatible with agricultural uses absent a contrary finding by the affected local agency. (Gov. Code, § 51238.) Nothing in the Williamson Act suggests that a local agency cannot likewise determine that electrical facilities are compatible uses on contracted land, as well. Instead, to determine what constitutes a compatible use on contracted land, the Legislature has given agencies three principles of compatibility to follow, as stated in Government Code section 51238.1, subdivision (a), which the County duly considered in establishing its Implementation Procedures and Uniform Rules ("Uniform Rules"). The Java Project can be found to satisfy each of these compatibility principles.

The first of these principles is that a use may not compromise the long-term productive agricultural capability of the contracted land. To this end, the County is requiring the project applicant to submit and implement an Agricultural Management Plan and a Soil Reclamation Plan, the second of which is to be guaranteed through Financial Assurances, as set forth in Mitigation Measures AG-1 through AG-3 in the IS/MND. The Agricultural Management Plan will provide for the ongoing agricultural productivity of the site for the life of the Project as detailed in Mitigation Measure AG-1. The Soil Reclamation Plan will provide for the restoration of the site at the end of the Java Project's useful life as detailed in

Mitigation Measure AG-2, and its implementation will be secured through the Financial Assurances as provided in Mitigation Measure AG-3.

The second principle requires that the proposed use not significantly displace or impair current or reasonably foreseeable agricultural operations on the contracted land. As explained in the IS/MND, due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, and impaired soil conditions, circumstances exist on the site that limit the site's current and foreseeable future agricultural uses. Although some of this property historically has been used for more intensive agricultural activities, it is now being used, and it is reasonably foreseeable that it will be used in the future, for less intensive agricultural operations, including dry farm seasonal grazing. Kings County Board of Supervisors Resolution No. 13-058, which describes adjacent land with similar limitations to the Java Project site, further declared that "[n]otwithstanding the present agricultural use of the land, solar farming as a concomitant use with dry farm seasonal grazing or a 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." Per MMs included in the IS/MND, the applicant would provide a soil reclamation plan and financial assurances. In addition, evidence has been provided in the IS/MND to support the finding that the grazing use proposed by the applicant is a reasonably foreseeable use of the land, and therefore, the second principle of compatibility is satisfied.

The third principle of compatibility requires that a use not result in the significant removal of adjacent agricultural land from agricultural use. Here, the IS/MND describes circumstances showing how this principle is satisfied, and the commenter does not rebut that analysis.

Due to the reasons cited above and the evidence outlined in the IS/MND, FSZ contract cancellation would, therefore, not be required. Likewise, because the proposed use is considered compatible with the principles of the Williamson Act and agricultural uses would continue on the site, it is similarly unnecessary to require enrollment in a Solar-Use Easement, which would restrict future uses to solar development.

DOC-3 **Summary of Comment**. The DOC requests to be provided with future hearing dates and staff reports related to the Java Project.

Response. The County will provide the DOC with the requested information as it becomes available.

ERRATUM
FOR THE
JAVA SOLAR PROJECT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
AUGUST 18, 2016

Since the release of the Java Solar Project Initial Study/Mitigated Negative Declaration (IS/MND) for public review, the Kings County Community Development Agency has determined that, for clarification purposes, certain changes to the IS/MND are warranted. As will be demonstrated below, none of the changes affect the adequacy of the environmental analysis, nor do they identify any significant new impacts, or present significant new information. As a result, per CEQA Guidelines Section 15073.5, recirculation of the Java Solar Project IS/MND is not required.[1] Changes to the Draft IS/MND text are presented in double-underlined format for new, added text and strikethrough format for deleted text.

Section 1.8.4, Page 1-13

~~Primary access to the Java Project site would be provided via SR-41, a two-lane, fully surfaced regional transportation route. The access driveway at the intersection of SR-41 and Java Avenue would include construction of turn pockets for exit and entry onto SR-41 to facilitate the delivery of equipment and personnel to the project site during construction and for project operations. An additional access driveway from SR-41 may be needed to access the northern portion of APN 024-170-011. The turn pockets would be constructed with 6 to 8 inches of aggregate base course to be designed according to project and the California Department of Transportation (Caltrans) specifications. The site access driveways would be paved up through the site access gate at the end of construction.~~

Primary access to the Java Project site during construction and operations would be provided via an existing access driveway located off of Kent Avenue. This driveway was recently used during construction of the adjacent Henrietta Solar Project and provides access to the Java Project site at the southeast corner of APN 024-170-010. Minor improvements to the existing access driveway may be required at the site boundary for ingress/egress onto the Java Project site. No improvements to public roads are required for this construction access. During operations, the site would be accessed via this same access driveway or via Java Avenue. No additional improvements would be required to accommodate operational vehicles.

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[1] According to CEQA Guidelines Section 15073.5,

(c) Recirculation is not required under the following circumstances:

(1) Mitigation measures are replaced with equal or more effective measures pursuant to Section 15074.1.

(2) New project revisions are added in response to written or verbal comments on the project's effects identified in the proposed negative declaration which are not new avoidable significant effects.

(3) Measures or conditions of project approval are added after circulation of the negative declaration which are not required by CEQA, which do not create new significant environmental effects and are not necessary to mitigate an avoidable significant effect.

(4) New information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration.

Section 1.8.4, Page 1-14

- ~~Construction would comply with San Joaquin Valley Air Pollution Control District standards for unpaved driveways, which include a requirements to keep vehicle speeds below 15 miles per hour and to have fewer than 150 trips per day per unpaved road.~~

Section 1.10, Page 1-19

- ~~*California Department of Transportation Encroachment Permit.* An encroachment permit would be required for installation of ingress egress lane along SR-41 and the installation of the telecommunication line if required.~~

Section 3.5.2, Page 3.5-4

MM CR-1: Archaeological Monitoring. Prior to any ground disturbance, a surface inspection of the Java Project site shall be conducted by a qualified archeologist. The qualified archeologist shall monitor the site during grading activities. The archeologist shall provide pre-construction briefings to supervisory personnel, ~~and~~ any excavation contractor, and any person who will perform unsupervised, ground disturbing work on the project in connection with construction or decommissioning. The briefings ~~which~~ will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

MM CR-2 Stop Work in the Event of Unanticipated Discoveries. In the event that cultural resources, paleontological resources or unique geologic features are discovered during construction or decommissioning, operations shall stop within 100 feet of the find, and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall determine the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with §15064.5 of the CEQA Guidelines. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Any previously undiscovered resources found during construction within the Project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist.

~~The Kings County Community Development Agency, along with other relevant agency or Tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County Community Development Agency.~~

Prior to any ground disturbance, the applicant shall enter into an agreement with the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe") regarding cultural resources and burial treatment and protection ("Plan"), which shall be in a form acceptable to the County. Upon discovery of cultural resources, in addition to other procedures described in this mitigation measure, the Kings County Community Development Agency, along with other relevant agency or Tribal officials, shall be contacted to begin coordination on the disposition of the find(s), and treatment of any significant cultural resource shall be undertaken pursuant to the Plan. In the event of any conflict between this mitigation measure and the Plan, the stipulations of the Plan shall control.

Section 3.5.2, Pages 3.5-5 and 3.5-6

MM CR-5: Treatment of Human Remains. If Native American burials, cemeteries, isolated and/or fragmented human remains, cremations, associated funerary objects, or unassociated funerary objects are uncovered during ground disturbing activities that occur during project construction and decommissioning, the applicant shall comply with current legal requirements at the time of discovery for treatment of the find(s). ~~The applicant shall follow current legal requirements at the time of discovery for the treatment of human remains.~~ Currently, pursuant to Section 5097.98 of the California Public Resources Code (PRC) and Section 7050.5(e) of the California State Health and Safety Code (HSC) Section and PRC Section 5097.98, if human remains or bone remains of unknown origin are 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 contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD), who shall have at least 48 hours from notification of the find to comment.

If the MLD is determined to be the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe"), the applicant and Tribe shall proceed according to the agreed upon cultural resources and burial treatment and protection plan required under CR-2. Otherwise, ~~The~~ the applicant 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 include appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD and the other parties do not agree on the reburial method, the Project shall follow PRC 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."

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.

Section 3.16.2, Page 3.16-10

The temporary changes needed for construction (and decommissioning) would consist of the addition of access driveways to allow ingress/egress onto the Java Project site at the southeast corner of APN 024-170-010 and internal circulation.

Section 3.16.2, Page 3.16-11

In addition, access driveways for the Java Project also would be consistent with state regulations, as well as local regulations. ~~Access driveways would be constructed in accordance with California Department of Transportation (Caltrans) specifications, and the turn pockets would be constructed according to these standards.~~

Section 3.16.2, Page 3.16-14 to Page 3.16-15

~~Potential entrances to the Java Project site would be built on SR-41 or from Kent Avenue in accordance with Kings County improvement standards. These new entrances would result in turning movements in and out of the Java Project site and thereby create some potential for interaction with vehicles travelling along the state route or Kent Avenue; however, line-of-sight would be clear due to the flat terrain and~~

~~absence of visual obstructions from either roadway. Site construction and operation vehicles would be of a type consistent with agricultural and other vehicles currently using roads affected by the Java Project. In addition, MM TR-1 would reduce any impact associated with safety concerns by requiring that the applicant consult with Caltrans and/or the County, ensuring that equipment does not block emergency access. Therefore, with the implementation of MM TR-1, the impact would be less than significant.~~

During construction, an entrance to the Java Project site would be built at the southeast corner of APN 024-170-010 to connect with the existing access driveway originating at Kent Avenue in accordance with Kings County improvement standards. The Kent Avenue/SR-41 intersection and the intersection of the access driveway and Kent Avenue already accommodate the turning radius of large delivery vehicles because they recently accommodated vehicles of the same size and type during the construction of the Henrietta Solar Project. Further, site construction and operation vehicles would be of a type consistent with agricultural and other vehicles currently using roads affected by the Java Project. In addition, MM TR-1 would reduce any impact associated with safety concerns by requiring that the applicant consult with Caltrans and/or the County, ensuring that equipment does not block emergency access. Therefore, with the implementation of MM TR-1, the impact would be less than significant.

JAVA SOLAR PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

JAVA SOLAR PROJECT

KINGS COUNTY, CALIFORNIA

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

ecology and environment, inc.
Global Environmental Specialists

July 2016

JAVA SOLAR PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

JAVA SOLAR PROJECT

KINGS COUNTY, CALIFORNIA

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

Submitted to:

Kings County Community Development Agency
Planning Division
1400 W. Lacey Boulevard, Building # 6
Hanford, California 93230

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CUP 15-03

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Global Environmental Specialists

July 2016

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Acronyms and Abbreviations

AB	Assembly Bill
AC	alternating current
AFB	Air Force Base
AG-20	general agricultural areas on parcels of land a minimum of 20-acres in size
AG-40	general agricultural areas on parcels of land a minimum of 40-acres in size
AIC	Archeological Information Center
AICUZ	Air Installations Compatible Use Zones
AL-10	limited agricultural areas on parcels of land a minimum of 10-acres in size
APN	Assessor's Parcel Number
AX	Exclusive Agriculture
BMP	best management practice
BPS	best performance standard
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	Code of California Regulations
CDFW	California Department of Fish and Wildlife
CEMA	California Emergency Management Agency
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CH_4	methane
CNDDB	California Natural Diversity Data Base
CNEL	community noise equivalent level
CO_2	carbon dioxide
CUP	conditional use permit
CWA	Clean Water Act
dBA	A-weighted decibel
DC	direct current
DOC	California Department of Conservation
DOF	California Department of Finance
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
E&E	Ecology and Environment, Inc.
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency

FHWA	Federal Highway Administration
FMMP	California Farmland Mapping and Monitoring Program
GHG	greenhouse gas
Henrietta Gen-tie line	Henrietta Solar Project generation inertie lie
HWCL	California Hazardous Waste Control Law
ISMND	Initial Study Mitigated Negative Declaration
I	Interstate
ISR	Indirect Source Review
JLUS	Joint Land Use Study
KCAG	Kings County Association of Governments
KWRA	King Waste and Recycling Authority
L_{eq}	equivalent sound pressure level
L_{max}	Maximum noise level
LOS	Level of Service
M	Mercalli Index
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MIA	military influence area
MRZ	Mineral Resource Zone
MYA	million years ago
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NEC	National Electrical Code
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O&M	operations and maintenance
OEM	Office of Emergency Management
OSHA	Occupational Safety and Health Administration
PCS	power conditioning stations
PDF	project design feature
PG&E	Pacific Gas & Electric
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PV	photovoltaic
RCRA	Resource Conservation and Recovery Act
Right-to-Farm	Right to Farm Policies of the County of Kings
RWQCB	Regional Water Quality Control Board
SIP	state implementation plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SR	State Route
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
T&E	threatened and endangered
U.S.C.	U.S. Code

USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank

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1.0 Background Information

1.1 Project Title

Conditional Use Permit No. 15-03
Java Solar Project

1.2 Lead Agency Name and Address

Kings County Community Development Agency
Kings County Government Center
1400 West Lacey Boulevard
Hanford, CA 93230

1.3 Lead Agency Contact Person and Phone Number

Sandy Roper, Principal Planner
(559) 852-2685

1.4 Project Location

The Java Solar Project (Java Project) would be located in an unincorporated area of Kings County, California (Figure 1-1), 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford (Figure 1-2).

1.5 Project Sponsor's and Property Owner's Name and Address

Project Sponsor:
Java Solar, LLC
1414 Harbour Way South, Suite 1901
Richmond, CA 94804 USA
Contact: James Diven, Senior Manager, Development

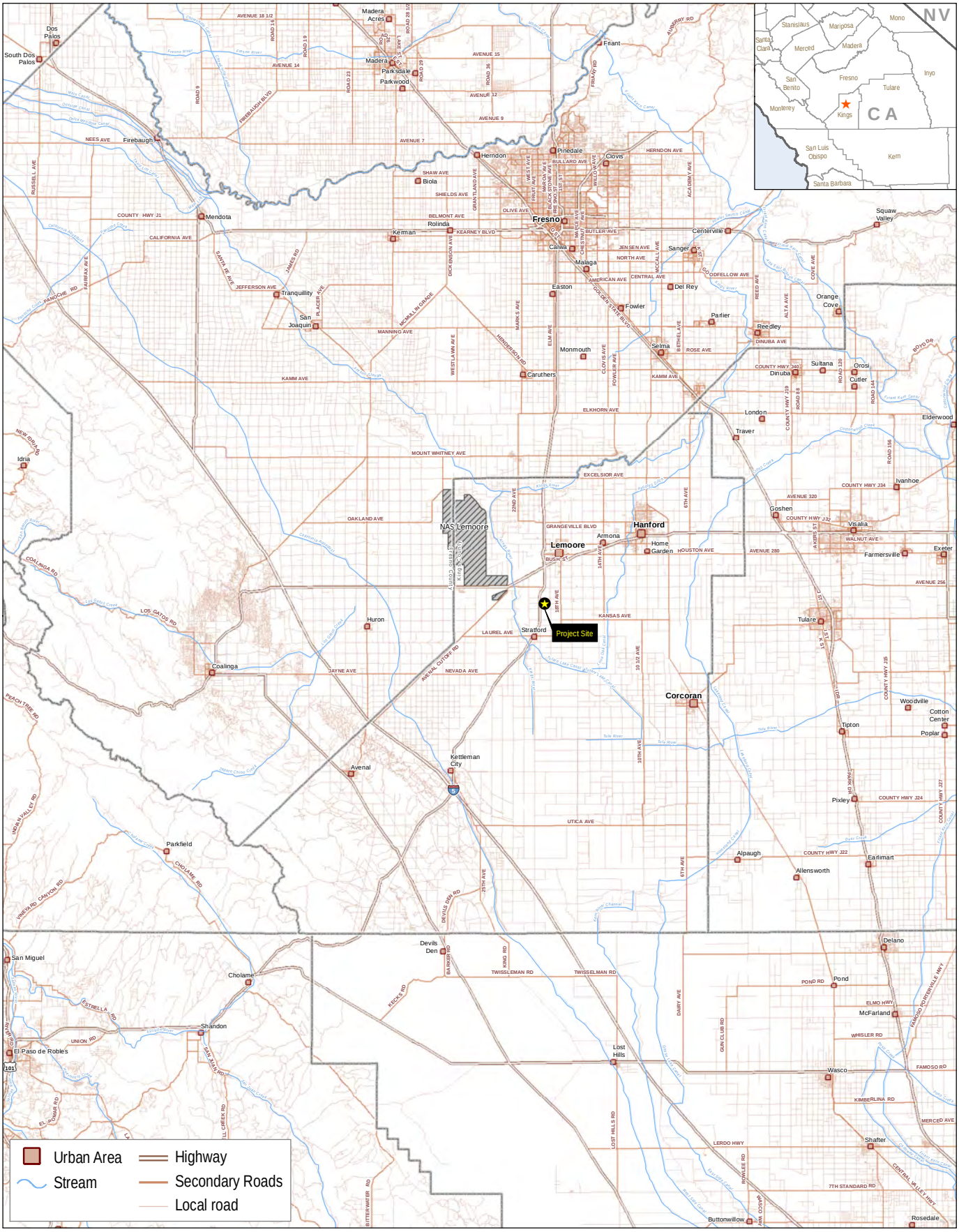
Property Owner:
Java Solar, LLC
1414 Harbour Way South, Suite 1901
Richmond, CA 94804

1.6 General Plan Designation

The 2035 Kings County General Plan land use designation for the Java Project site is General Agriculture (AG-20).

1.7 Zoning

The Kings County zoning designation for the Java Project site is General Agricultural (AG-20).



Source: ESRI 2012

Figure 1-1
Project Vicinity Map
Java Solar Project
Kings County, California

0 5 10
Miles

Source: ESRI 2015

Figure 1-2
Project Site Plan
Java Solar Project
Kings County, California

0 500 1,000
Feet

1.8 Description of the Project

1.8.1 Project Overview

Java Solar, LLC, the project sponsor and landowner, proposes to develop, own, and operate an approximately 15-megawatt alternating current (AC) photovoltaic (PV) solar generating farm, access driveways, electrical interconnection, and project substation on approximately 96 acres of agricultural lands in unincorporated Kings County, California. The Java Project requires county approval of a Conditional Use Permit (CUP) under the name of Java Solar, LLC to allow for the construction, operation, and maintenance of such facilities for the long-term generation of clean renewable energy from solar power; electricity would ultimately be sold to a public utility, commercial, or industrial company and distributed for public consumption.

The Java Project facilities would be 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford (see Figures 1-1 and 1-2). The area is immediately east of SR-41 at the Java Avenue intersection.

The Java Project site comprises all of assessor's parcel numbers (APN) 024-170-010 and 024-170-011. The area contains no remarkable elevation contours at an elevation of 191-202 feet and is on flat agricultural land with a California Farmland Mapping and Monitoring Program (FMMP) designation of Farmland of Statewide Importance (FMMP 2014). In the past, APN 024-170-010 consisted of grain and row crops, such as cotton, tomatoes, and alfalfa, and was tilled regularly for weed, pest, and fire control purposes; however, in recent years, it has been dry farmed or has been fallow. APN 024-170-011 is a failed pomegranate orchard and the northern portion is fallowed. Neither parcel has a source of agricultural water supply.

1.8.2 Project Objectives

The Java Project would provide renewable solar energy during periods of high demand and assist the State of California in complying with the Renewable Portfolio Standard (Senate Bill 350) and the Global Warming Solutions Act of 2006 (Assembly Bill 32). The former calls for 50 percent of all electricity sold in California to be generated from renewable sources by the year 2030 and the latter, an overall reduction in the State's greenhouse gas emissions to 1990 levels by 2020. The Java Project represents an additional clean source of electrical power that would supplement energy currently supplied by the existing power grid, thereby reducing the potential for power shortages to occur and decreasing demands on the capabilities of the existing distribution system. The Project sponsor is proposing to construct the Java Project to meet the following objectives:

- Generate up to 15 megawatts (AC) of clean, renewable electrical power utilizing solar PV technology;
- Help implement the State's goals of increased electrical generation with renewable resources and overall reduction in greenhouse gas emissions under California's Renewables Portfolio Standard (SB 350) and Global Warming Solutions Act of 2006 (AB 32);
- Provide for the economically viable and environmentally beneficial use of the site's physically impaired agricultural capacity;
- 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;

- Provide community benefits through increased property tax and sales tax revenues; and
- Develop an economically feasible and commercially financeable project.

1.8.3 Proposed On-Site Facilities and Project Operation

Java Project components would include access driveways, solar modules, tracker components, direct current (DC) to AC power inverters, medium voltage transformers, a medium voltage collection system, a project substation, and the installation of some additional interconnection equipment at the existing Pacific Gas and Electric (PG&E) Leprino Switching Station as illustrated on the project Site Plan (Figure 1-2). The Java Project will utilize the existing 115-kilovolt Henrietta Solar Project generation intertie line (Henrietta Gen-tie line), which runs through the project site.

Mechanical Components within the Solar Field

To support the PV panels, the Java Project would utilize a single-axis tracking system designed to optimize power production of the panels by ensuring proper orientation to the sun both daily and seasonally. Figure 1-3 shows a typical installation of a PV array. The single-axis tracking systems are supported by metal piers driven into the ground by a pile driving machine. Pier placement begins with a precise surveyed layout, ensuring proper positioning of remaining tracker assembly parts. Affixed to the top of each pier is a pier cap and bearing assembly that supports and allows proper movement of the torque tube assembly. Single-axis tracking systems require a drive system that provides directional force to the torque tube. This can be accomplished with either a mechanical or hydraulic drive arm and tube assembly that “pushes and pulls” the torque arm through its range of motion or by a geared assembly that redirects rotational force to the tubes. Both approaches require a small geared motor or hydraulic system mounted on a pile support or pad strong enough to move the system through its daily range of motions.

The panels may be constructed of glass encasing crystalline silicon or poly crystalline silicon. A plastic binding material and frame provides structural rigidity. The panels would be dark blue or black in color.

The PV panels would be self-contained durably constructed units designed to withstand exposure to the elements for a period of 35 years or greater. The solar modules deployed for use in the Java Project would be certified to comply with all industry standard quality testing. Panels would be electrically connected to the grounding system of the plant in accordance with local and state codes and regulations. The final panel selection would be determined at the detailed project-engineering phase.

Multiple tracker systems are deployed in proximity to the power conditioning stations (PCS) where the DC produced by the panels is converted to AC for movement to the project substation and eventual delivery to the electrical grid. The number of trackers connected to each of the PCS varies with panel output relative to inverter size and desired output from the PCS.

The Java Project’s trackers would be separated by distances to accommodate maintenance personnel traveling in trucks or other maintenance vehicles. Typical design specifies that the distance between rows of the trackers would be between 6.5 feet and 8.5 feet, with row lengths that meet site design parameters and applicable Kings County fire safety requirements. Another mechanical feature of the project’s tracker system includes a cable tray that would provide support and containment of the DC wires used to collect the output of the panels and move output to the PCS.

Figure 1-3 Typical Solar PV Array

Electrical Components in the Solar Field

Power Conversion Station PCS (Inverters and Medium Voltage Transformers)

The inverters and transformers, as well as other electrical equipment that comprises each PCS, will be on the Java Project site within electrical equipment enclosures. The footprint of each PCS, which are generally mounted on a concrete pad, is approximately 12 feet x 30 feet. The Java Project will require approximately 7 PCS, depending on final design details. The inverter converts the DC electricity to AC electricity, which then flows to a transformer where it is stepped up to the appropriate collection level voltage (34.5 kilovolt). The Java Project will use SMA Sunny Central 2200-US inverters (see Figure 1-4) and medium voltage transformers manufactured by Cooper, or equivalent. Each inverter and transformer will be installed as per manufacturer's requirements.

Electrical Collection and Distribution System

The DC output of multiple rows of PV modules connected in series is collected through one or more combiner boxes and associated electrical wiring located throughout the project site. The power is delivered via an underground cable network to the inverters in the electrical equipment enclosures at the PCS, described above. Multiple transformers are electrically connected in parallel and deliver AC power along an underground transmission network to the project substation. The project substation will be tied into the existing Henrietta Gen-tie line via overhead cable.

Figure 1-4 Typical Solar PV Inverter

Project Substation

A project substation would be located in the southwest corner of APN 024-170-010. The project substation would include transformers, breakers, switches, meters, and related equipment. All interconnection equipment, including the control room if required, would be installed aboveground and within the footprint of the substation (see Figure 1-5 and Figure 1-6). The overall footprint of the project substation is anticipated to be approximately 220 feet by 100 feet and up to 75 feet in height at the apex (Figure 1-5 and 1-6). An emergency generator for use in the event that the regional transmission system

fails would also be at the substation; this emergency generator would provide emergency power until the regional transmission system restores operations. The generator would be powered by propane and would be 25 kilowatts or less in size. An approximately 220-gallon fuel tank would be immediately adjacent to the generator. The project substation may also contain a control room building approximately 12 feet by 20 feet with an overall height of less than 20 feet (Figure 1-7). The substation would be surrounded by an 8-foot barbed wire chain-link fence to comply with electrical codes. The control room may be outside the fenced area.

The substation must have access to communication systems in the area to comply with Federal Energy Regulatory Commission/California Independent System Operator/Utility monitoring and control requirements. Compliance may be accomplished by underground lines, aboveground lines, or wirelessly.

Project Transmission Network and Interconnection

The project substation would interconnect the Java Project and existing Henrietta Gen-tie line, which runs along the west edge of the proposed project substation location. The interconnecting lines would be less than 100 feet long and would be contained entirely on the Java Project site. The interconnecting lines would connect to an existing pole location. Two to four new poles may also be installed to accommodate the interconnecting lines. The new poles would be constructed of either steel or wood and would be generally the same size as the existing Henrietta Gen-tie line poles.

Additional electrical equipment, including Direct Transfer Trip equipment, Supervisory Control Data Acquisition and telemetry equipment, and breaker and control switching equipment, would be placed within the existing fenced area at the PG&E Leprino Switching Station.

Telecommunications

The Java Project would require connection with the existing local telecommunication service. A telecommunication line is comprised of fiber optic cable and/or 25-pair telephone line, which would be installed above and below ground, either attached to existing distribution lines or installed immediately adjacent to the project substation. The telecommunication routes would use a combination of existing poles or new poles and below ground installations. Lines would be placed within utility franchise easements to the extent feasible. The point of interconnection to the existing telecom facilities would be in a small telephone/fiber optic vault. Interconnection to the Java Project would be within the project substation. Below ground installations are usually installed 24-48 inches below grade. Above ground lines are typically placed 6-feet below existing distribution lines or on new, adjacent wooden poles. Telecommunication lines may also be attached to the existing Henrietta Gen-tie line, north or southwards to a suitable cross street and interconnected to the existing fiber optic network along State Route (SR) 41. Telecommunications may also be transmitted by a small wireless antenna, which would be placed at the project substation.

Meteorological Data Collection System

The Java Project would require several meteorological data collection systems. The systems would include a variety of instruments to collect meteorological data, which would be mounted at various locations throughout the facility. The meteorological data would be collected at the level of the solar panels or approximately 15 feet above the ground.

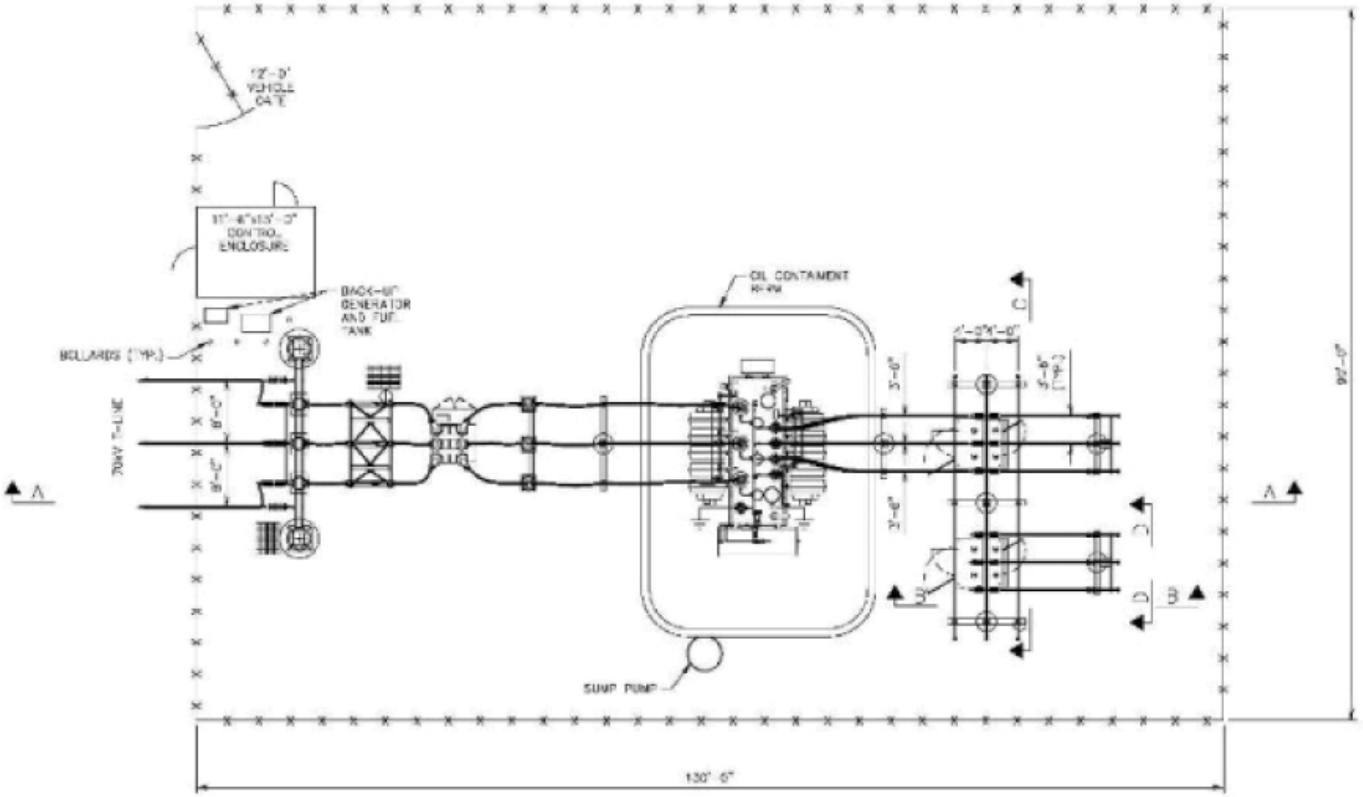


Figure 1-5 Project Substation Typical Layout

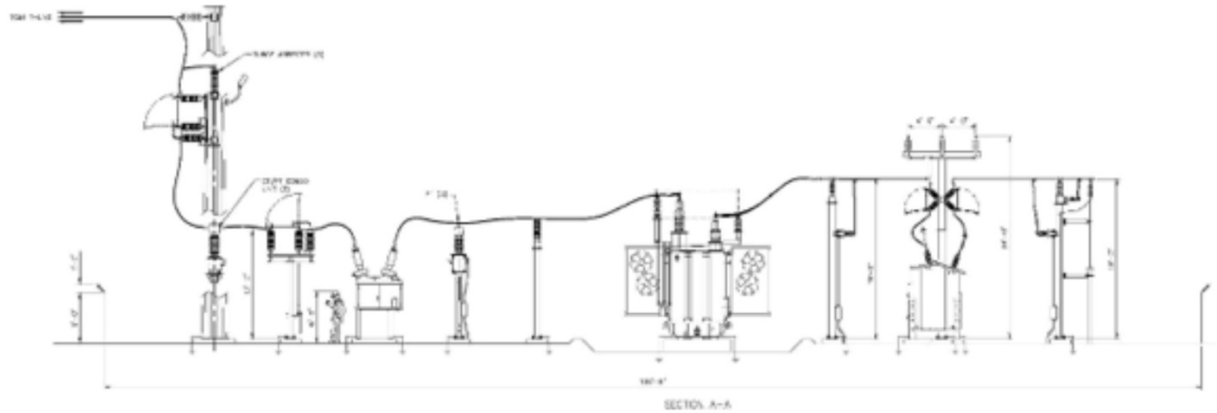


Figure 1-6 Typical Substation Design Cross Section

Figure 1-7 Typical Substation Control Room (Photo Courtesy of Intermountain Electric)

Operational Facilities

Water Storage

One or two small (10,000-gallon) aboveground tanks to store and/or treat water for onsite uses, including panel cleaning, would be installed on the Java Project site. Water demineralization, if undertaken, would use a closed loop trailer-mounted unit to remove minerals from the water where any produced solids would be disposed of offsite at a permitted receiving facility. Portable bathrooms would be used when extensive operational or maintenance activities occur onside during facility operation.

Water for operation activities would be purchased from a nearby property owner or water district with existing water entitlements, and/or produced from a new onsite well. Water would be used for ongoing maintenance, to include cleaning, of the solar panels. It is anticipated that the solar PV panels would be washed up to two times per year to ensure optimum solar absorption by removing dust particles and other buildup. Total water demand during operation is estimated to be approximately 33,000 gallons per year (equivalent to approximately 0.1 acre-foot).

Lighting

Project lighting would be installed to allow for ongoing maintenance and security. Low-level lighting would be installed at entry and egress gates at strategic locations around the facility. All Project lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent ownerships. All lighting would be shielded or otherwise modified to prevent emission of light or glare beyond the property line, or upward into the sky. (Kings County Development Code section 114.A.5.) . Lighting would be used from dusk to dawn.

Signage

Project signage is proposed to allow for the identification of the project owner and for safety and security purposes. Signage is proposed to be installed on the fence in the vicinity of the main entry gates. A ground mounted sign would be constructed at the south and northern alternate entrances to the facility. Signage would identify the project operator and owner and would provide emergency contact information.

Small-scale signage would also be posted at the main entry gates and intermittently along the perimeter fencing on all exterior parcel boundaries, to indicate "No Trespassing" and "Private Property" for security purposes.

All signage would conform to Kings County signage requirements.

Operation, Security and Maintenance

The facility would be monitored remotely by Java Solar, LLC or an affiliated company. Once constructed, the Java Project would operate during daylight, seven days per week, 365 days per year. Security would be maintained through installation of an 8-foot-high chain-link fence, which would include 1 foot of three-strand concertina wire along the perimeter of the site. Existing barbed wire fencing would be replaced with the project perimeter fencing as needed. Fencing installed will be "wildlife friendly" and will have a 5 to 7 inch separation between the bottom of the fence and the ground along the entire fence perimeter to allow for the safe passage of small mammals. Infrared security cameras, motion detectors, and/or other similar technology would also be installed to allow for monitoring of the project site through review of live, 24/7 footage. A security company would also be contracted by the applicant for security purposes during construction and operation. Should the security system detect the presence of unauthorized personnel, a security representative would be dispatched to the facility, and appropriate local authorities would be notified. A Knox box (containing keys for the project facility) would be installed to permit emergency access to the Project site.

It is anticipated that maintenance of the facilities would require two to three workers to perform daily visual inspections and minor repairs. On intermittent occasions, the presence of 10 to 30 workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facilities, such actions would likely occur infrequently. Overall, minimal maintenance requirements are anticipated, as the panels would operate on their own with little human involvement.

Fire Suppression and Safety

Combustible vegetation or agricultural products on and around the project boundary would be actively managed by the project owner or its affiliates during both the construction and operation phases of the Java Project to minimize fire risk. Combustible products would be either limited in height or removed. Seasonal sheep grazing would be implemented during operations. The Java Project would also include fire breaks around the site boundary in the form of access driveways subject to county standards. Section 1112.B.2.e of the Kings County Development Code requires a weed abatement plan, which is further described in Section 3.2, "Agricultural and Forestry Resources."

The applicant would implement measures for worker safety during construction in accordance with California Division of Occupational (Cal/OSHA) Safety and Health regulations and guidance and other best management practices. For example, prior to construction, the applicant would train all construction workers in emergency procedures, fire prevention, and location and proper use of emergency equipment. The training identifies:

- Contact numbers for various local emergency response agencies, including fire, police, and medical services.

- Communication procedures to report potential health hazards and concerns.
- Procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, reducing the use of flammable materials, and reducing smoking onsite during construction and maintenance procedures. Project personnel would be directed to park away from dry vegetation; to equip vehicles with fire extinguishers; and to park heavy equipment over mineral soil, asphalt, or concrete at the end of each workday. Workers would also be directed not to smoke except in designated areas.
- How to use and maintain fire extinguishers, shovels, and water to extinguish small fires.

In addition, the applicant would adhere to any Kings County Improvement Standards to ensure accessibility and ground clearance of emergency vehicles (i.e., fire engines) and would make fire suppression equipment (i.e., fire extinguishers) available on the project site at all times. As a standard feature of all of the applicant's projects, heavy equipment would also be required to include mechanisms for fire suppression, including spark arresters or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers.

Vegetation Management

As stated in "Fire Suppression and Safety," the applicant would use livestock grazing to control onsite vegetation during operations. Livestock grazing and vegetation management would be outlined in the applicant's Agricultural Management Plan (AMP). In addition to providing a mechanism for vegetation management, the AMP would also provide for the ongoing agricultural productivity of the site for the life of the Project and would be submitted to the County for review prior to issuance of building permits.

1.8.4 Project Construction

Prior to construction, the applicant would conduct a site-specific geotechnical investigation to provide the final design recommendations for aboveground structures. The Project would be engineered according to California Building Code requirements.

Site Access Construction and Internal Circulation/Parking

Primary access to the Java Project site would be provided via SR-41, a two-lane, fully surfaced regional transportation route. The access driveway at the intersection of SR-41 and Java Avenue would include construction of turn pockets for exit and entry onto SR-41 to facilitate the delivery of equipment and personnel to the project site during construction and for project operations. An additional access driveway from SR-41 may be needed to access the northern portion of APN 024-170-011. The turn pockets would be constructed with 6 to 8 inches of aggregate base course to be designed according to project and the California Department of Transportation (Caltrans) specifications. The site access driveways would be paved up through the site access gate at the end of construction.

Interior access within the project site would be provided from site access driveways via an approximately 20-foot-wide double-lane gravel driveway. Short bridge or culvert structures may be needed to allow for roads crossing the existing canal that runs north to south through the Java Project site, which would be erected during construction and maintained through operations. Assuming no real estate rights of third parties are affected, the applicant may fill this ditch, in which case all necessary permits would be acquired. The access and interior driveways would be constructed in accordance with Kings County requirements and maintained to facilitate onsite circulation for emergency vehicles during all weather conditions.

Construction Phase Parking and Traffic Flow

During construction, all employees would park within the Java Project site boundary. All construction workers would be encouraged to carpool. Between 2-5 acres of all-weather parking spaces, temporary office facilities, and equipment staging would be temporarily constructed to provide onsite parking for construction staff. This area could be expanded to accommodate increased worker needs. This area and the gravel placed on it would be reclaimed at the end of substantial construction and re-deployed elsewhere on the project site.

Construction Traffic

During construction, an average of 90 workers per day would commute to the Java Project site. In addition, an estimated 136 roundtrips per day would be required to deliver materials and equipment to the project site. During peak construction, a maximum of 120 worker roundtrips and 180 roundtrip truck trips could be required.

The applicant would consult with Kings County prior to initiation of construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.) and would implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements. The applicant implements the following standard traffic measures during construction of all projects:

- Construction traffic would not block emergency equipment routes.
- Construction activities would be designed to minimize work on, and use of, local streets.
- Construction would comply with San Joaquin Valley Air Pollution Control District standards for unpaved driveways, which include a requirement to keep vehicle speeds below 15 miles per hour and to have fewer than 150 trips per day per unpaved road.

Construction Phase Utilities and Service Systems

The Java Project's construction phase utility and services system requirements are described below.

Electricity

The temporary office and construction facilities would obtain construction electricity from a temporary drop off line from the local electrical distribution system located along SR-41, adjacent to the Java Project site. Up to 10 portable electrical generators that meet local and state emission controls would be used throughout the Java Project site during construction and operation for electrical needs away from the temporary construction facilities.

Waste Disposal

Portable restroom facilities, in quantities that meet all labor code requirements, would be located across the Java Project site where work is occurring. These facilities would be regularly cleaned and maintained to health and safety codes. A contract would be executed with the local waste hauling company to ensure removal of all landfill material from the site. Efforts would be made to reduce landfill waste by developing an effective waste recycling program. Waste containers would be spread over work areas making it easy for workers to utilize them. Workers would make regular sweeps to ensure the worksite is clean and safe. According to the applicant's best estimates, approximately 10 cubic yards (cy) of solid waste would be generated per MW during construction of the Project. Therefore, the Project would produce approximately 150 cy of solid waste.

Construction Water

Java Solar has entered into a service contract with a local landowner who will provide construction water from existing wells to be primarily used for dust suppression, soil compaction, concrete hydration and other miscellaneous activities requiring non-potable water during construction. Approximately 15 acre-feet, on average less than 2 acre-feet per month of construction or approximately 20,000 gallons per day, would be used for construction activities. Potable water for drinking and similar needs during construction would be trucked in from offsite (e.g., bottled water).

Site Preparation and Grading Activities

Grading and Compaction

The proposed Java Project site is, flat, nearly level, and would require minimal grading to allow for installation of the PV panels. Approximately 8.5 acres of grading are estimated to be needed for inverter pad, substation, driveways, and other improvements. Access driveways would be constructed by placing 2 to 4 inches of decomposed granite or comparable material directly on the existing soil. Soil compaction, soil strengthening agents, or geo fabric may be used for access and circulation driveways. Compaction may also be required for the construction of inverter pads, substation, control rooms, and driveways. Driveways and other work areas would be sprayed periodically with water to reduce dust. Driveways and work areas may also be treated with county-approved dust suppression products.

Dust Control During Construction

The applicant implements standard fugitive dust control measures and incorporates those measures into their construction contracts for all projects. Those dust control measures include:

- Watering all active construction sites with the frequency of watering based on the type of operation, soil, and wind exposure.
- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water or other approved substances.
- Prohibit all grading activities during periods of high wind (over 20 miles per hour);
- Onsite vehicles limited to a speed that minimizes dust emissions on unpaved driveways (15 mph).
- Cover all trucks hauling dirt, sand, or loose materials.
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person would respond and take corrective action within 48 hours. The phone number of the San Joaquin Valley Air Pollution Control District (SJVAPCD) also would be visible to ensure compliance with SJVAPCD rules regarding nuisance and fugitive dust emissions.

Diesel-Powered Equipment During Construction

In addition to standard dust control features, the applicant implements standard measures to reduce tailpipe emissions from diesel-powered construction equipment. This requirement will be incorporated into the construction contracts for the Project.

Storm Water Protection

Because construction of the Java Project would disturb a surface area greater than one acre, the applicant would be required to obtain coverage under the state Construction General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (2012-0006-DWQ). As a standard requirement for enrolling under this permit, Java Solar would prepare a Storm Water Pollution

Prevention Plan (SWPPP) that details Project information; monitoring and reporting procedures; and Best Management Practices (BMPs), such as dewatering procedures, storm water runoff quality control measures, and concrete waste management, as necessary (discussed in more detail in Section 3.9, "Hydrology and Water Quality"). The SWPPP would be based on final engineering design and would include all project components. Java Solar would submit a Notice of Intent to the State Water Resources Control Board to obtain coverage under the Construction General Permit.

Equipment Installation

Construction activities would include the installation of civil infrastructure (e.g., driveways, utilities, fencing, etc.), mechanical infrastructure (e.g., piles, tracking components, etc.), and electrical infrastructure (e.g., PV panels, cable harnesses, etc.), including the following:

Civil Infrastructure

- Survey and project layout, including road, panel, switching station, and support buildings;
- Driveway construction, including placement of aggregate;
- Temporary facilities, parking, and staging areas;
- Installation of the chain-link fence and gates;
- Watering for dust control and soil compaction; and
- Switching station, skid/inverter, and control room pads.

Mechanical & Electrical Infrastructure

- Installation of tubular steel foundations and placement of a racking system on top of tubular steel;
- Placement of PV solar modules and DC collection system;
- Installation of a wire harness, fuses, and wire grounding;
- Trenching for buried wires;
- Installation of buried wiring;
- Inverter/transformer structures;
- Wiring and interconnection;
- AC collection system;
- Trenching and overhead installation of MVCS from inverters/transformers to the project switching station;
- Construction of the project substation;
- Construction of the interconnection to the transmission/distribution system;
- Telecommunications installation;
- Installation of meteorological equipment;
- Water storage tanks; and
- On-site well for operations water.

1.8.5 Construction Schedule and Personnel Requirements

Construction and testing of the Java Project would take approximately 8 months to complete and initiate in summer or fall of 2016.

The Java Project elements would be completed either in phases or concurrently. Crews typically work six 10-hour days per week. Sunday, evening, and night work may also be required due to the scheduling of system outages and construction schedules. The peak construction workforce is anticipated to be 120 workers, depending on scheduling constraints.

1.8.6 Commissioning and Energizing

Before solar field components can be commissioned and tested, they must have back feed power from the high voltage system. The project substation must be constructed, tested, and energized back to the step up transformer prior to commissioning activities of the solar field and before power can be exported from the site. Final construction phasing would be determined during project financing but, for the purposes of California Environmental Quality Act (CEQA) analysis, it is assumed that all construction phases may occur simultaneously.

1.8.7 Decommissioning and Soil Reclamation Plan

Removal of Equipment

The decommissioning and restoration process would involve the removal of aboveground and belowground structures, restoration of topsoil, revegetation, and seeding. Temporary erosion and sedimentation control BMPs would be used during the Java Project's decommissioning phase.

Solar panels would be removed and placed in secure transport crates or container boxes for storage, and transported to another facility for reuse, material recycling or disposal. The bolts and reusable fasteners that had attached each module to the racks would be removed and saved for reuse. Once the solar modules were removed, the racks would be disassembled and the structures supporting the racks would be removed and salvaged or recycled.

Electrical equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment offsite. Electrical equipment, transformers and switching gear on the inverter and interconnection transformer pads and all above ground electrical wiring would be removed and recycled or disposed of.

All other aboveground site infrastructure—including fences; awnings; and the concrete pads that supported the inverters, and related equipment—would be removed. The fence and gate would be removed, and all materials would be recycled to the greatest extent possible. All debris would be removed from the area.

Soil Reclamation

The Java Project site would be restored to approximate pre-project conditions, including removal of specified improvements, removal of buried infrastructure, restoration of compacted soil, and revegetation and mulching, according to a county-approved Soil Reclamation Plan. The Soil Reclamation Plan will be submitted to the County for review and approval prior to issuance of Building Permits. The applicant would also provide the County with financial assurances for implementation of this Plan.

1.9 Land Uses and Setting

The Java Project site is located in unincorporated Kings County, in the southern portion of the San Joaquin Valley within Section 33, T 19S, R 20E, Mount Diablo Base & Meridian California. The area is bordered by agricultural land to the north and east, evaporation basins and SR-41 to the west, and the Henrietta Solar Project to the southeast. Poultry facilities are located south, east, and southeast of the Java Project site. A dairy facility is located northeast of the Java Project site. The Recurrent Energy (RE) Kansas Solar Project is located to the northwest, the RE Kansas South and RE Lincoln Solar Projects are located to the southwest, and the Lemoore 14 ImMODO Solar Project is located to the northeast of the Java Project site.

This region is characterized by a history of farming, ranching, and oil exploration (Kings County 2010). The Java Project site parcels are under private ownership and used for limited agriculture. The southern portion of the site is on land under a 20-year Farmland Security Zone Contract, also referred to as a Super Williamson Act contract; however, according to Figure RC-13 of the 2035 Kings County General Plan, the site is not located on High Priority agricultural land. In 2013, the Kings County Board of Supervisors adopted Resolution 13-058, which recognizes that, due to surface water deliveries, poor groundwater quality, severe groundwater overdrafts, impaired soil conditions, and regulatory burdens, much of the land in the region west of SR-41 is incompatible with more intensive agricultural uses. Although the Java Project site is located just east of SR-41, on the other side of the highway from the area described in the Resolution, the site exhibits similar agricultural limitations (including lack of an agricultural water supply and impaired soil conditions). Plans for continued agricultural activities would include the practice of grazing sheep to utilize the forage produced under and between the PV arrays.

Due to the remoteness of the Project site, sensitive receptors within one mile of the site include scattered residences. There are no hospitals or schools within one mile of the site. Table 1-1 includes a list of sensitive receptors.

Table 1-1 Sensitive Receptors within One Mile of the Java Project Site

Receptor	Type	Direction from Site Perimeter	Distance (feet)*
1	Residential	West	585
2	Residential	South	1174
3	Residential	Northeast	1275
4	Residential	Northeast	1488
5	Residential	South	1950
6	Residential	Northeast	2042
7	Residential	Northeast	2358
8	Residential	East	2497
9	Residential	East	2547

* Based on construction activity at the nearest site perimeter.

1.10 Other Permits and Approvals that may be Required

The project sponsor has submitted an application for a CUP to the Kings County Community Development Agency for the Java Project. The following required permits and approvals have been identified for the Java Project. Additional permits and approvals may also be required.

- *Kings County, Construction Permit (Building Permit).* The county authorizes construction activities under the master Construction Permit. This permit encompasses grading, building, electrical, mechanical, landscaping and other activities. The county's review for ordinance standards is undertaken as part of this review.
- *Kings County, Encroachment Permit.* Kings County requires an Encroachment Permit for utility trenching within a public right-of-way. As part of the application for the Encroachment Permit, the applicant must submit construction drawings and a traffic control plan for any work that would take place in public streets.
- *Central Valley Regional Water Quality Control Board, National Pollutant Discharge Permit.* Construction of the project and alternatives would disturb a surface area greater than 1 acre, so the project sponsor would be required to obtain a National Pollutant Discharge Elimination System (NPDES) Permit from the Central Valley Regional Water Quality Control Board. As part of this permit, a SWPPP would be developed and implemented.
- *San Joaquin Valley Air Pollution Control District, Indirect Source Review.* An Indirect Source Review (District Rule 9510) will be filed with the SJVAPCD to determine potential mitigation, if any, for oxides of nitrogen (NOx) and particulate matter less than or equal to 10 microns in diameter (PM10) emissions.
- *San Joaquin Valley Air Pollution Control District, Dust Control Plan.* A dust control plan is required to be submitted and approved by the SJVAPCD prior to initiation of ground disturbances activities associated with construction.
- *San Joaquin Valley Air Pollution Control District, Authority to Construct and Permit to Operate.* Facility backup generator permits for project operations, if required.
- *California Department of Transportation Encroachment Permit.* An encroachment permit would be required for installation of ingress egress lane along SR-41 and the installation of the telecommunication line if required.
- *State Water Resources Control Board.* A NPDES General Permit to Discharge Storm Water Associated with Construction Activity (Construction General Permit) would be required for construction of the Java Project.

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2.0 Environmental Determination

2.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project.

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

2.2 Determination

Determination: (To Be Completed by the Lead Agency)

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 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) 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

7-7-16
Date

Sandy Roper, Principal Planner

Agency: Kings County Community Development Agency

3.0 Evaluation of Environmental Impacts

3.1 Aesthetics

Table 3.1-1 Aesthetics Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Setting

Environmental Setting

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The Java Project site and surrounding landscape are primarily used for agricultural production. The Java Project would be accessible via SR-41. Other roads near the site include: Kent Avenue to the south; South 19th Avenue to the east; and Jersey Avenue to the north. The Java Project site is situated on relatively flat agricultural land with no major elevation contours, geological features, or buildings. Both of the parcels are intersected by irrigation or drainage channels. The lands immediately southeast of the site are currently under construction for the Henrietta Solar Project.

Naval Air Station (NAS) Lemoore is 3.34 miles northwest of the Java Project site, located along SR-198. The nearest existing residences are across SR-41 from the site; to the south, on Kent Avenue at a poultry farm; south of the poultry farm, along SR-41; and to the northeast, along Jersey Avenue.

Visual Sensitivity

Visual impacts of the Java Project were examined using established visual impact methodologies and local jurisdictional general plans to determine the extent to which the project would interfere with the existing visual character of the landscape.

Federal Highway Administration. The Federal Highway Administration (FHWA) Visual Impact Assessment for Highway Projects (FHWA 1988) is a methodology used to consider visual impacts to motorists. This methodology is commonly used for impact analysis of development projects on both public and private lands. Other commonly used visual assessment methodologies, such as the Bureau of Land Management's Visual Resource Management Program and the U.S. Forest Service's Scenery Management System, contain select standards applicable to private land. These methodologies, however, are generally better suited for lands managed by their respective agencies (BLM 1986; USFS 1995). The Java Project site is on private land, adjacent to SR-41, and the majority of its viewers would be motorists. Thus, the FHWA methodologies are most applicable for this project's visual impact analysis.

Although the FHWA recently revised its impact assessment methodologies to focus on transportation projects, as well as eliminate several key concepts from the earlier guidelines, the 1988 guidelines remain more appropriate for assessing the aesthetic impacts of projects within diverse landscape types and on private lands (FHWA 2015). Due to the nature and setting of the proposed Java Project site, the methodology for this aesthetic impact assessment relies on the process, concepts, and terminology outlined in the 1988 FHWA guidelines (FHWA 1988).

The FHWA 1988 landscape evaluation and visual impact assessment includes analysis of vividness, unity, and intactness. Vividness is defined as "the memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern." Intactness is defined as "the integrity of the visual order in the natural and man-built landscape, and the extent to which the landscape is free from visual encroachment". Unity is defined as "the degree to which the visual resources of the landscape join together to form a coherent, harmonious visual pattern, and the term refers to the compositional harmony or degree of inter-compatibility between landscape elements." (FHA 1988)

Using the FHWA 1988 methodology, the overall visual quality of the Java Project site and its surroundings is considered low. Agricultural fields occupy a majority of the surrounding landscape, which also includes a poultry farm directly south of the site along Kent Avenue, the Henrietta Solar Project southeast of the Java Project site and just south of Kent Avenue, and three water retention ponds west of SR-41. The southeastern tip of the Java Project site and south along SR-41 includes multiple parcels of land for the Henrietta Solar Project, which is currently under construction. There are two other solar projects that also abut SR-41: one several miles south and another at the intersection of SR-41 and Jersey Avenue, less than a mile from the Java Project site. Due to the lack of remarkable features on the Java Project site and its surrounding area, the region is not particularly memorable. There is no striking contrast amongst landscape elements (i.e., all features are relatively low-lying). There is a slight visual pattern between blocks of solar facilities mixed with agriculture; however, the pattern is visible for such a short time period to traveling motorists that it is not considered significant. Therefore, the vividness of the Java Project site is determined to be low. Similarly, development associated with the farm to the east, solar development projects southwest and east, and patches of agriculture land have somewhat interrupted the intactness of the area. In addition to the construction of new solar farms and the three settling ponds, transmission lines that border the southeastern portion of the site and SR-41 also interrupt the area's visual intactness. This lack of visual order has led to an overall low visual intactness in the area. Furthermore, because the Java Project site is near a mixture of other solar development sites, as well as agricultural land and perennial ponds, the visual effect is of non-unified land, making the site's unity ranking low.

Kings County General Plan. The Open Space Element of the *2035 Kings County General Plan* describes scenic resources within the county. This element identifies portions of the Kings River and Cross Creek in the northern half of the county as scenic natural assets and the Coast Ranges of the county's southwest edges as a distinctive visual backdrop (Kings County CDA 2010). The Java Project site is 2 miles from Kings River, 10 miles from Cross Creek, and 30 miles from the Coast Ranges and would not be noticeable by scenic viewers from these resources.

There are no state designated scenic highways in Kings County. A portion of SR-41, from its intersection with SR-33 through to the San Luis Obispo County line, is an eligible state scenic highway (Caltrans 2013). The Java Project site is approximately 27 miles northeast of the SR-41 and SR-33 intersection and, therefore, not visually connected to county or state designated or eligible scenic resources.

Sensitive viewers of the Java Project site were determined to be residents living in the vicinity on SR-41, Jersey Avenue, Kent Avenue, and 19th Avenue; highway travelers on SR-41; and Navy pilots performing flight operations. The solar panels' low structure height of up to 15 feet and flat regional landscape limit the number of residents expected to see the Java Project site to the few residents living in close proximity.

Regulatory Setting

State

State Scenic Highways. Caltrans administers the State Scenic Highway Program to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways (California Streets and Highways Code Sections 260 et seq.). The State Scenic Highway Program includes a list of highways that are designated as scenic highways or eligible for designation. A highway may be designated scenic based on how much of the natural landscape is visible to travelers, the scenic quality of that landscape, and the extent to which development intrudes upon travelers' enjoyment of the view. The local jurisdiction is responsible for adopting and implementing such regulations (Caltrans 2013). If a highway is listed as eligible for official designation, it is part of the State Scenic Highway Program and care must be taken to preserve both the aesthetic character and eligible status. The closest State Scenic Highway is located over 40 miles away from the Java Project site in Fresno County.

Regional and Local

Kings County General Plan. The Open Space Element of the *2035 Kings County General Plan* includes the following Objective pertaining to roadside landscapes:

- Open Space Objective B1.2: Preserve roadside landscapes which have high visual quality and contribute to the local environment.

3.1.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. Due to the Java Project site's low elevation contours at an elevation of 191-202 feet and distance from scenic county resources, the Java Project would not substantially affect a scenic vista. The Java Project would be neither visible from Kings River and Cross Creek nor noticeable from the Coast Ranges. The Java Project solar arrays are not expected to exceed a height of 15 feet and would be near existing agricultural fields, a poultry farm, and several solar sites either currently under construction or already operational. The Java Project would only be noticeable to those driving on SR-41 and nearby side streets and would not be distinguishable from great distances. The Java Project would also include one meteorological station, a substation, and up to seven inverters, the tallest of which – the substation – is up to 75 feet at the apex (only a portion of the substation). Perimeter fencing with an overall height of approximately 8 feet would surround the Java Project site. These structures would not be noticeable from a scenic vista and, therefore, have no substantial adverse effect on a scenic vista. Consequently, the Java Project would have no impact on aesthetics under this criterion.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

NO IMPACT. The Java Project would not be within the viewshed of any designated or eligible state scenic highways. No designated state scenic highways are located within Kings County and the Java Project would be approximately 25 miles northeast of the portion of SR-41 that has been proposed as an eligible state scenic highway. Because the Java Project would not be visible from any designated or eligible state scenic highways, there would be no impact on scenic resources from a state scenic highway under this criterion.

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

LESS THAN SIGNIFICANT. The Java Project would not substantially degrade the existing visual character or quality of either the Java Project site or its surroundings. As previously described, the scenic value of the Java Project site is low. The Java Project would introduce temporary visual impacts during construction through the storage of equipment and materials, but this disruption would be short term. During construction, rows of solar panels' low structure height of up to 15 feet, a substation, and associated equipment would be placed on the site. Although construction of the Java Project would alter the existing visual character of the area, the visual contrast introduced by the Project would be low because the existing vividness, intactness, and unity of views are already low. Additionally, viewers in the area are accustomed to agricultural uses and other solar projects along SR-41, the visual character of which is similar to the proposed solar use.

The number of viewers of the Java Project site would be low and limited primarily to motorists along SR-41. The number of occupants and visitors to adjacent properties, including those utilizing Kent and Jersey Avenues, is also very low. Motorists are considered to have a lower expectation of a view than local residents because motorist views are temporary and generally less frequent than views from homes; they occur while the viewer is focused on the activity of driving while the vehicle is moving; and they are limited to the periphery of the driver's vision. The Project's impacts on both motorists and residents in the area would be less than significant because the Java Project would be located in an area with a pre-existing low visual quality.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

LESS THAN SIGNIFICANT. Solar panels would be dark blue or black in color. The PV panels are designed using materials with antireflective properties, which absorb rather than reflect light. Therefore, the Java Project would result in minimal increases in sources of light and glare. These impacts would be insubstantial and would not adversely affect day or nighttime views.

Low-level lighting would be installed throughout the Java Project site for operation and maintenance procedures, as well as at entrances and exits. The potential for the Java Project to create a source of glare adversely affecting pilots at NAS Lemoore would be less than significant and is discussed in greater detail in Section 3.8, "Hazards and Hazardous Materials." All lighting would be shielded or otherwise modified to prevent emission of light or glare beyond the property line, or upward into the sky (Kings County Development Code section 114.A.5.) By complying with this legal requirement, there would be no "spillover" impacts outside the project from new sources of light or glare, and the impact would be less than significant.

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3.2 Agriculture and Forestry Resources

Table 3.2-1 Agriculture and Forest Resources Checklist

In determining whether impacts on 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 on 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
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?	☐	☐	☒	☐

3.2.1 Agricultural Setting

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41 between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). APN 024-170-010 previously contained grain and row crops, such as wheat and barley, and was tilled regularly for weed, pest, and fire control purposes. The southern portion of APN 024-170-011 is a failed pomegranate orchard and the northern portion is fallowed.

Soils and Water

According to data obtained from the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), soil in the Java Project area, including on the subject properties, have characteristics that limit their uses for agricultural production as described below.

Soil Capability Classification System

The Soil Capability Classification System characterizes soils according to their appearance, depth, consistency, slope, and erosion factors. As indicated in Table 3.2-1, Soils are grouped into eight Soil Capability Classes and are graded I through VIII. Class I denotes the most suitable conditions for cultivation, and Class VIII denotes the least suitable.

Table 3.2-1 Soil Capability Classification

Class	Description
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants or that require special conservation practices or both.
IV	Soils have very severe limitations that reduce the choice of plants or that require very careful management or both.
V	Soils are not likely to erode but have other limitations, impractical to remove, that limit their use.
VI	Soils have severe limitations that make them generally unsuitable for cultivation.
VII	Soils have very severe limitations that make them unsuitable for cultivation.
VIII	Soils and landforms have limitations that nearly preclude their use for commercial crop production.

Source: USDA 1981

Storie Index Rating System

Soils are also rated by the Storie Index, a numerical system expressing the relative degree of suitability or value of a soil for agricultural use. Index values range from 1 to 100 and are divided into six grades. An index of 100 and a grade of 1 denote the most suitable soils for cultivation; a grade of 6 denotes the least suitable. Soils that have a Storie Index rating of 10 or below are considered to have very low agricultural potential. Soils are considered to be prime for high-quality agricultural production if their Storie Index rating is 80 or greater. Table 3.2-2 lists the six NRCS soil grades, ranges in index rating, and definitions for each soil grade.

Table 3.2-2 Storie Index Rating System

Grade	STORIE Index Rating	Description
1 - Excellent	80 through 100	Soils are well suited for growing irrigated crops that are climatically suited to the region.
2 - Good	60 through 79	Soils are good agricultural soils, although they may not be as desirable as Grade 1 because of moderately coarse or gravelly surface soil texture; somewhat less permeable subsoil; lower plant=available water holding capacity, fair fertility; less well-drained conditions or slight to moderate flood hazards, all acting separately or in combination.
3 – Fair	40 through 59	Soils are only fairly well suited to general agricultural use and are limited in their use because of moderate slopes; moderate soil depths; less permeable subsoil; fine, moderately fine, or gravelly surface soil textures; poor drainage; moderate flood hazards; or fair to poor fertility levels, all acting alone or in combination.
4 - Poor	20 through 39	Soils are poorly suited. They are severely limited in their agricultural potential because of shallow soil depths; less permeable subsoil; steeper slope; or more clayey or gravelly surface soil textures than Grade 3 soils, as well as poor drainage; greater flood hazards; hummocky micro-relief; salinity; or fair to poor fertility levels, all acting alone or in combination.
5 - Very Poor	10 through 19	Soils are very poorly suited for agriculture, are seldom cultivated and are more commonly used for range, pasture, or woodland.
6 - Nonagricultural	Less than 10	Soils are not suited for agriculture at all due to very severe to extreme physical limitations, or because of urbanization.

Source: USDA 1981

Soils on the Java Project site include Armona loam, Grangeville sandy loam, Homeland fine sandy loam, Lakeside loam, and Lemoore sandy loam (Figure 3.2-1). According to the NCRS, these soils have Storie Index ratings between 14.7 and 17.7 and are categorized as Grade 5 - Very Poor. In addition, according to the Soil Capability Classification System, even if irrigated, these soils would have moderate to severe limitations, reducing the choice of plants that can be cultivated or requiring special conservation practices. Although these soils would perform better if irrigated, considering the properties' lack of any surface water entitlements and the limited availability of groundwater in the Project area, these soils are classified as having very severe limitations as depicted in Table 3.2-3 (NCRS 2015).

According to the Lemoore Canal District, the local canal system running through the Java project site has historically delivered water to agricultural parcels in the Project area; however, the project parcels do not have entitlements to water deliveries from the district and the district's water deliveries to other nearby properties have declined steeply in recent years due to ongoing drought conditions throughout California. APN 024-170-010 previously had surface water entitlements but has received no water from the Lemoore Canal District for at least the past four years, and no longer has any entitlements to future deliveries (Silva 2016).

APN 024-170-011 has been fallowed for some years, with the southern portion last farmed as a pomegranate Orchard that failed over two and a half years ago. In recent years, APN 024-170-010 has been dry farmed (Silva 2016). In the vicinity of the Project site, agricultural uses in general have declined due to drought and poor soil conditions (Kings County 2013). As a result, many parcels in the Project area that previously contained active agricultural operations are now fallowed or have been replaced by other uses, such as solar generation.

Table 3.2-3 Soil Component Data for the Java Project Site

Map Unit Symbol	Map Unit Name	Acreage of Soil Component Coverage	Percent of Soil Component Coverage	Storie Index Rating	Capability Class: Non-Irrigated	Capability Class: Irrigated
APN 024-170-010						
101	Armona loan, partially drained	0.35	Less than 1%	5 (14.7)	VII	III
119	Grangeville sandy loam, saline-alkali	0.44	Less than 1%	5 (16.8)	VI	II
124	Homeland fine sandy loam, partially drained	1.91	2%	5 (15.7)	VII	III
134	Lakeside loam, partially drained	4.18	5%	5 (17.7)	VI	II
137	Lemoore sandy loam, partially drained	72.33	91%	5 (16.5)	VII	II
APN 024-170-011						
137	Lemoore sandy loam, partially drained	18.98	100%	5 (16.5)	VII	II

Source: NCRS 2015; UC Davis 2015

County Plans, Regulations and Consultation

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 Resource Conservation Element (Figure RC-13) of the *2035 Kings County General Plan*, shows APN 024-170-011 as "Medium Priority" and APN 024-170-010 as "Low Priority" for preservation (Kings County CDA 2010b).

General Plan and Development Code

The *2035 Kings County General Plan* and *Development Code* includes agriculture preservation policies and measures. Goals and policies for agriculture in the *General Plan* and *Development Code* address the preservation of agricultural land and farming uses; the promotion of growth and expansion of farmland; the establishment and maintenance of buffers between urban and agricultural uses; the restriction of non-agricultural uses in farmland areas; the maintenance of non-urban and open space uses in agricultural and rural areas in the county; and the importance of ensuring long-term protection of agricultural production (Kings County CDA 2010a).

According to Land Use Goal B7 of the Land Use Element of the *2035 Kings County General Plan*, Agricultural Open Space areas are compatible with "community benefiting non-agricultural uses" (Kings County CDA 2010a). Specifically, Land Use Policy B7.1.3 states, "power generation facilities for commercial markets shall be allowed and regulated through the CUP approval process, and include thermal, wind, and solar PV electrical generating facilities that produce power" (Kings County CDA 2010a). In addition, Section 407 of the *Kings County Development Code* states that the land use regulations for "Agricultural" districts are established by letter designation in the key of Table 4-1. Table 4-1 requires a Conditional Use Permit in the General Agricultural (AG-20) zone district for wind and solar PV electrical generating facilities that commercially produce power for sale, which comply with all

local, regional, state, and federal regulations.Both APN 024-170-010 and APN 024-170-011 are located on land designated by the *2035 Kings County General Plan* as AG-20 (General Agriculture – 20 acre). Both APNs are located within the General Agricultural (AG-20) zone district. Section 1112.B.2 contains the standards for solar photovoltaic electrical facilities for commercial sales and distribution of electrical power in agricultural zoning districts.

Kings County Right-to-Farm Policy

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 rezoning, 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, page 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 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 1996).

State of California Regulations, Plans, and Standards

Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) administers and maintains the statewide FMMP. The California Division of Land Resource Protection FMMP and the Williamson Act programs help to conserve agricultural land. For the FMMP, the U.S. Department of Agriculture collects soils surveys and uses existing land use observations recorded during even-numbered years to determine the nature and quality of farmland in 10-acre minimum units across the state. FMMP mapping categories for the most important statewide farmland include the following (CDC 2015):

- *Prime Farmland* has the ideal physical and chemical composition for crop production. It has been used for irrigated production in the four years prior to classification and is capable of producing sustained yields.
- *Farmland of Statewide Importance* has also been used for irrigated production in the four years prior to classification and is only slightly poorer quality than Prime Farmland.
- *Unique Farmland* has been cropped in the four years prior to classification and does not meet the criteria for Prime Farmland or Farmland of Statewide Importance but has produced specific crops with high economic value.
- *Farmland of Local Importance* encompasses farmland that does not meet the criteria for the previous three categories. These may lack irrigation, produce major crops, be zoned as agricultural, and/or support dairy.
- *Grazing Land* has vegetation that is suitable for grazing livestock.

The most recent Important Farmland Map published by DOC for Kings County shows that the majority of the Java Project site is mapped as Farmland of Statewide Importance (Figure 3.2-2) with a small portion of APN 024-170-010 mapped as Unique Farmland.

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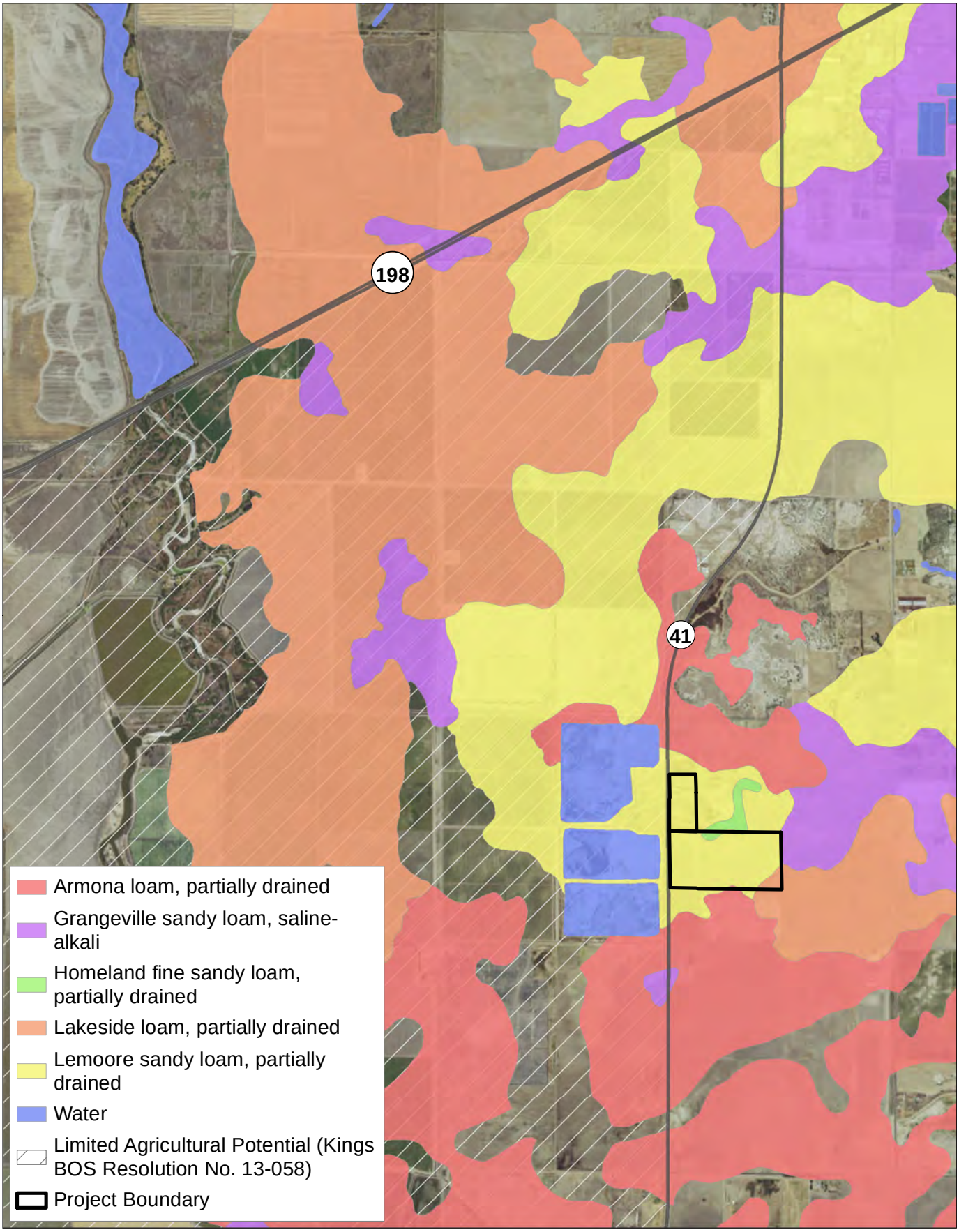

Source: NRCS SSURGO 2014
Basemap: ESRI World Imagery

Figure 3.2-1
Soils in the Project Area
Java Solar Project
Kings County, California

N

0 0.25 0.5
Miles

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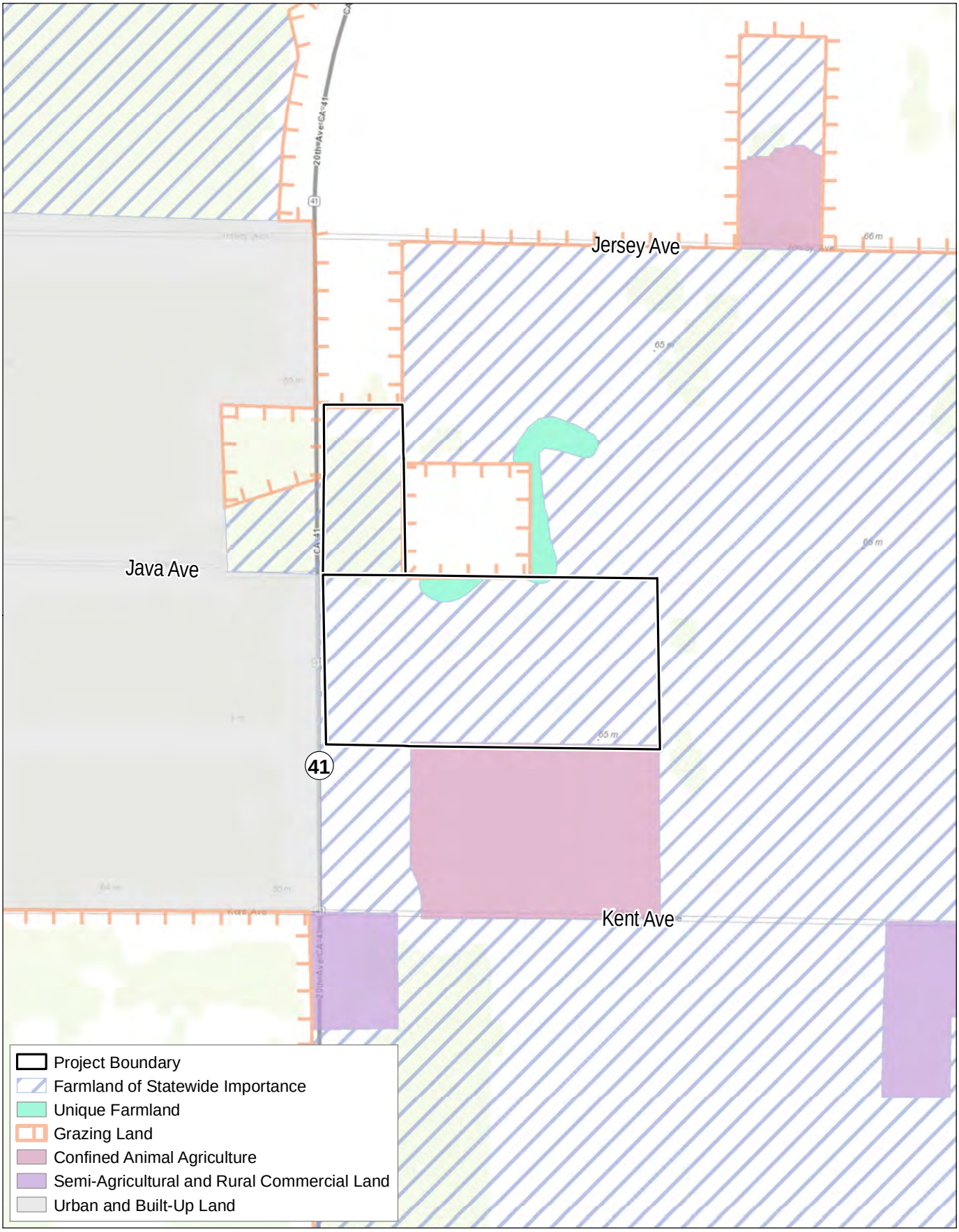

Basemap: ESRI World Topo
Data: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2012

Figure 3.2-2
Farmland Mapping and Monitoring Plan Designations in the Project Area
Java Solar Project
Kings County, California

0 500 1,000
Feet

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Williamson Act

California Government Code Section 51296, 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. Under the Williamson Act, the County can establish a Farmland Security Zone contract with private landowners for no less than 20 years for the purpose of restricting conversion of specific parcels of land to incompatible uses. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual, farming, and open space uses, as opposed to potential market value. According to the DOC's Division of Land Resources Protection, while solar power facility siting is not addressed by the Williamson Act, "locating a solar power generation facility on land within an agricultural preserve may be allowed as a compatible use depending on the local rules governing compatibility…"(CDC 2010).

California Government Code section 51238 provides that "electric facilities" are deemed compatible uses within any agricultural preserve, unless the legislative body of a city or county makes a finding to the contrary. For other uses and for electric facilities where a county has made a determination that they are not deemed compatible, California Government Code section 51238.1 contains the principles of compatibility with which uses on contracted lands must be consistent:

(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 preserves;

(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.

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

APN 024-170-010 is under a Farmland Security Zone contract. APN 024-170-011 is not under a Williamson Act or a Farmland Security Zone contract.

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, sheep grazing, 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 as they pertain to solar PV facilities:

> "Commercial solar PV 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 SR-198, west of SR-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 2013)."

Both the western side of SR-41 and the Java Project site contain Lemoore sandy loam and Armona loam (soil type 137 and 101, respectively). These two soil types account for over 93 percent of the soils on the Java Project site. Therefore, over 93 percent of the soils on the Java Project site are the same soil types as those located on the western side of SR-41 that the County has recognized as impaired. In addition, crop production on the subject properties has in recent years been limited or unsuccessful as demonstrated by the presence of a failed orchard and the fact that the parcels have received no water deliveries in recent years and have produced only low value crops.

3.2.2 Environmental Impacts and Mitigation Measures

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?

LESS THAN SIGNIFICANT WITH MITIGATION. The Java Project site is classified as Farmland of Statewide Importance with a small portion of APN 024-170-010 classified as Unique Farmland. However, the most recent FMMP classifications do not take into account current conditions such as limited water supply and impaired soil productivity such as indicated by the Storie Index ratings and Soil Capability Classifications. For example, recent crops harvested on APN 024-170-010 have included dry-farmed low-value crops, such as wheat and barley. According to the Lemoore Canal District, neither of the Project parcels have entitlements to surface water deliveries (Silva 2016). For at least the past four years, the Lemoore Canal District has delivered no water to APN 024-170-010. Although the previous owners of APN 024-170-010 owned water shares in the Lemoore Canal District these shares were withheld when the property was sold to the current owner. Therefore, APN 024-170-010 does not meet the definition of Farmland of Statewide Importance, which requires land to have been irrigated within the past four years. In addition, a pomegranate orchard planted on APN 024-170-011 failed to produce mature plants or bear fruit. The owners of APN 024-170-011 did not own water shares in the Lemoore Canal District, and therefore, the Lemoore Canal District did not deliver water to the site. The prior source of water for APN 024-170-011 is unknown; however, the presence of a failed pomegranate orchard demonstrates that the site is not well-suited for cultivating high-value crops, and there is no presently available irrigation water supply. Considering the presence of soil types with a Storie Index rating of Grade 5-Very Poor, Soil Capability Classifications indicating severe limitations, and soil types similar to those that have been formally recognized as impaired by Kings County to the west of SR-41, it is foreseeable that both APN 024-170-010 and APN 024-170-011 could be downgraded by the FMMP in the near future with or without the presence of the Java Project.

In order to maintain vegetation during operation, the applicant has proposed to graze livestock (sheep) between and under the arrays throughout the year. The solar use, as proposed, would convert 8.5 acres of 96 acres, or 8.85% of the site, to non-agricultural uses; however, given the low productivity of on-site

soils, lack of water availability, and the fact that agricultural uses in the past four years or more have included a failed orchard and low value dry-farming operations, sheep grazing would be an improvement in the agricultural productivity of the site parcels. Nonetheless, in order to ensure that the applicant does not convert land classified as Important Farmland to a nonagricultural use, MM AG-1 (Agricultural Management Plan), MM AG-2 (Soil Reclamation Plan), and MM AG-3 (Financial Assurances) would be required. Implementation of these mitigation measures would ensure that agricultural uses are maintained during operation of the Project and that the agricultural viability of the parcels is maintained after decommissioning. Therefore, impacts would be less than significant under this criterion.

MM 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 site for the life of the Project. The AMP shall specify that the site shall be vegetated with grasses and forbs on at least 90% of the site and 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 CDA. The AMP shall also comply with the requirements of the *Kings County Development Code* related to weed abatement and pest control.

MM 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 site at the end of the Java Project's useful life. The Plan shall contain an analysis of general preconstruction 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 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-project 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 Planning Division staff.

MM 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 are 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 Project site for the life of the Java 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 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 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 Important Farmland on the Project site would be less than significant.

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

LESS THAN SIGNIFICANT WITH MITIGATION. 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*.

Williamson Act

A portion of the Project site (Assessor's Parcel Number 024-170-010) is subject to a Farmland Security Zone (FSZ) contract, specifically Contract No. FSZ00002 in Farmland Security Zone No. 0002, recorded December 18, 1998, as Document No. 9827240, Kings County Records. In addition, a portion of the Project site (Assessor's Parcel Number 024-170-011) is not restricted by either a FSZ contract or a Williamson Act (WA) contract. The applicant proposes to avoid conflict with the FSZ contract 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 Project site would be maintained during the life of the Java Project by implementation of an Agricultural Management Plan (MM AG-1) which specifies the ongoing maintenance of 90% vegetative cover over the site for sheep grazing. Further, in this case, the total site, which contains two parcels—one of which is not under FSZ contract—has contained no high value agricultural crops and has been fallow for several years. APN 024-170-010 (the FSZ contracted parcel) has produced dry farmed wheat and barley crops, and APN 024-170-011 (which is not under FSZ contract but contains the same soil types and other limitations as the FSZ contracted parcel) contains a failed orchard that never reached maturity. Therefore, the proposed use represents an improvement in baseline conditions with respect to agricultural uses. Also, 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. In order to ensure that the site is restored to pre-project conditions after decommissioning, the

applicant would also be required to implement MM AG-2, which requires implementation of a Soil Reclamation Plan, and MM AG-3, which requires financial assurances, as described above. The Soil Reclamation Plan would include detailed provisions on decommissioning, soil conditioning, revegetation, waste recycling/disposal, monitoring, and follow-up measures to ensure that the site has been effectively restored to pre-project conditions. Other agricultural parcels in the vicinity would not be impaired by introduction of the solar use because the site would contain a co-located agricultural use. The site would not contain uses, such as housing developments or office structures that could conflict with adjacent agricultural uses. No residents would be located on the site who would complain about the noise or odors associated with adjacent agricultural uses.

(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 with 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 2013).

The following is a point by point evaluation of the Project's consistency with the above County guidance.

First, the Project site is located adjacent to 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. Over 93% of the soils on the Project site are the same soil types as those in the area west of SR-41 that were identified in the resolution.

Second, as discussed under item 'a)' above, MM AG-2 requires the implementation of a Soil Reclamation Plan for the Project, and MM AG-3 requires the provision of financial assurances for implementation of the Soil Reclamation Plan.

Third, as discussed under item 'a)' above, MM AG-1 requires the implementation of an AMP that provides for the ongoing agricultural productivity of the site for the life of the Project. The site would be vegetated with grasses and forbs on at least 90% of the site and managed for dry farm seasonal sheep grazing in order to control on site vegetation, (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. According to the Lemoore Canal District, neither of the Project parcels have entitlements to surface water deliveries (Silva 2016). For at least the past four years, the Lemoore Canal District has delivered no water to APN 024-170-010. Although the previous owners of APN 024-170-010 owned water shares in the Lemoore Canal District these shares were withheld when the property was sold to the current owner, and the site had received no water deliveries for several years prior to the sale. According to the Lemoore Canal District, the local canal system running through the Java Project site has historically delivered water to agricultural parcels in the Project area; however, the Project parcels do not have entitlements to water deliveries from the district, and the district's water deliveries to other nearby properties have declined steeply in recent years due to ongoing drought conditions throughout California. APN 024-170-010 previously had surface water entitlements but has received no water from the Lemoore Canal District for at least the past four years, and no longer has any entitlements to future deliveries (Silva 2016).

Groundwater Availability. The Tulare Lake Subbasin has a surface area of 524,000 acres (DWR 2006). Total groundwater storage capacity is estimated at 17 million acre-feet to a depth of 300 feet and 82 million acre-feet to the base of fresh groundwater. Annual urban and agricultural extractions from the subbasin are estimated at 24,000 and 648,000 acre-feet, respectively. In 2006, DWR estimated that annual natural recharge of the subbasin was 89,200 acre-feet per year. Although artificial recharge and subsurface inflow were unknown, annual applied water recharge totals were estimated to be about 195,000 acre-feet. Groundwater wells in the Tulare Lake Subbasin had yields ranging from 20 to 2,000 gallons per minute, with an average range for municipal/irrigation production of 300 to 1,000 gallons per minute. The estimated average specific yield for the subbasin was 8.5 percent (DWR 2006). In 1980, five of the seven subbasins within the San Joaquin Valley groundwater system, including Tulare Lake, were identified as being in overdraft (DWR 2015). The DWR California Statewide Groundwater Elevation Monitoring Program recently ranked the Tulare Lake Subbasin as high-priority for groundwater monitoring and identified subsidence, overdraft, and water quality degradation as problems within this subbasin (DWR 2014). Although still in overdraft, between 2005 and 2010, 53% of water usage in the Tulare Lake Hydrologic Region was met by groundwater (DWR 2015). Agricultural uses in the subbasin accounted for an average of 5,550 acre-feet of groundwater use between 2005 and 2010, which amounted to 51% of water used for agricultural purposes. Additional water needs were met by local projects, Central Valley Project, and State Water Project (DWR 2015). APN 024-170-010 previously contained grain and row crops, such as wheat and barley, and was tilled regularly for weed, pest, and fire control purposes. The southern portion of APN 024-170-011 is a failed pomegranate orchard and the northern portion is fallowed. In the past, the crops typically grown on the Project site included wheat and barley. Although the parcels were dry farmed and water was not used to produce these crops, in order to maximize

crop yields, these crops would typically require approximately 1.5 acre-feet per acre per year of irrigation water, respectively. For comparison, tomatoes and other vegetables require about 1.5 acre-feet per acre per year, and tree crops require 2.5 to 3.0 acre-feet per acre per year, while alfalfa hay requires 3.5 acre-feet per acre per year. Thus, during years with curtailment of surface water deliveries, groundwater pumping does not provide enough water to make up the difference in supporting crops in the region. Overpumping beyond safe yield results in progressive lowering of the water table and is not sustainable. In contrast, during operation, the proposed project would use 0.1 acre-feet of water per year for panel washing, which is substantially less than the amount of water that would be required to produce high value agricultural crops.

Groundwater Quality. According to DWR, groundwater quality throughout the subbasin is generally suitable for most urban and agricultural uses (DWR 2003); however, high salinity levels and the presence of other contaminants, including total dissolved solids have been identified as potential long-term problems for the basin (CVRWQCB 2004). In addition, in 2013, the Kings County Board of Supervisors recognized the limitations of groundwater supplies near the Java Project area (Kings County 2013).

Soil Conditions. Soils on the Java Project site include Armona loam, Grangeville sandy loam, Homeland fine sandy loam, Lakeside loam, and Lemoore sandy loam (Figure 3.2-1). According to the NCRS, these soils have Storie Index ratings between 14.7 and 17.7 and are categorized as Grade 5 - Very Poor. In addition, according to the Soil Capability Classification System, even if irrigated, these soils would have moderate to severe limitations, reducing the choice of plants that can be cultivated or requiring special conservation practices. Although these soils would perform better if irrigated, considering the properties' lack of any surface water entitlements and the limited availability of groundwater in the Project area, these soils are classified as having very severe limitations as depicted in Table 3.2-3 (NCRS 2015).

All of these conditions have progressively exacerbated soil salinity levels such that irrigated cultivation will cease to be feasible on the site in the near term future. Due to the limitation of reliable water availability currently available onsite and significant impairment of soil quality, the Project site is not suitable for sustaining long-term agricultural crop production, the reasonably foreseeable agricultural use of the site with or without the Project would be dry land farming with seasonal grazing.

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

Discussion. The Java 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 would include an on-site substation at the southwest corner of APN: 024-170-010. The Project substation would interconnect the Java Project and the existing Henrietta Gen-tie line, which runs along the western edge of the Project substation location. The interconnecting lines would be less than 100 feet long and would be contained entirely on the Java Project site. The Project would not result in the construction of new roadways, beyond internal access driveways within the Java Project site, that would provide new vehicular access to adjacent contracted land. Since the Project would not include any excess infrastructure service 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 support facilities.

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 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 urban growth inducement.

As discussed above in the substantiation for the first compatibility findings under Government Code Section 51238.1(a), 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 Java 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 FSZ contract in effect on a portion of the Project site.

County Zoning

Article 4, Section 407, of the *Kings County Development Code* states that the land use regulations for Agricultural districts is prescribed in Table 4-1. The regulations for each district are established by letter designation shown in the key of Table 4-1. Table 4-1 requires a Conditional Use Permit in the General Agricultural (AG-20) zone district for wind and solar PV electrical generating facilities that commercially produce power for sale, which comply with all local, regional, state, and federal regulations. Section 1112.B.2 contains the standards for solar photovoltaic electrical facilities for commercial sales and distribution of electrical power in agricultural zoning districts.

As designated in the Kings County Zoning Plan, the 96-acre Java Project site is currently zoned as "General Agricultural (AG-20)." As provided in Article 4 of the *Kings County Development Code*, utility-scale photovoltaic electricity generation is a conditionally permitted use in AG-20 zone district. Therefore, the Java 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* requires that the granting of Conditional Use Permits for solar photovoltaic electrical facilities shall be subject to certain specified findings. Most of these findings relate to agricultural land. As such, the required findings, and the Project's consistency with the findings, are addressed in turn below.

1. *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.*

   Discussion. Approximately 18 acres (APN: 024-170-011) of the 96-acre Java Project site is designated as "Medium Priority" land, and approximately 78 acres (APN: 024-170-010) is designated as "Low Priority" land, as mapped in Figure RC-13 of the Conservation Element of the *2035 Kings County General Plan*. Since the Project would be integrated with a reasonably foreseeable agriculture use on the site, it would satisfy the finding applicable to Medium and Low Priority land. As required under MM AG-1, above, the majority of the site would be vegetated with native grasses on at least 90% of the site for dry farm seasonal sheep grazing, in accordance with the AMP to be implemented in conjunction with the Project. As required under MM AG-2 and AG-3, above, the applicant would be required to prepare a Soil Reclamation Plan and provide Financial Assurance, both of which would be completed and subject to County approval prior to issuance of building permits for the Project.

2. *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:*

   a. *The project site is located on low or very low priority farmland.*

   b. *The project site is not restricted by a Williamson Act or Farmland Security Zone contract.*

   c. *The project will connect to existing utility infrastructure without building new power lines.*

   d. *The project will not result in any additional easements on agricultural land, other than access easements or easements within the public Right-of-Way.*

   Discussion. An existing 115-kV sub-transmission electrical line is located ¼ of a mile north of the Java Project site and an existing 60-kV sub-transmission line is located ¼ of a mile south of the Java Project site. 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 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.*

   Discussion. The majority of the Project 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 the majority of the site area, concomitantly with the solar facility use. This use would represent an improvement over existing conditions on the total acreage of the site, which has not produced crops for the last several years or has produced dry farmed, low value wheat and barley. 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. The AMP, as required under MM AG-1, would ensure the maintenance of seasonal sheep grazing on the site for life of the Project. MMs AG-2 and AG-3 would ensure that 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 Project.

4. *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.*

   Discussion. As discussed above, MMs 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 CDA prior to the issuance of construction permits. As discussed above, the Java Project site has no surface water rights; therefore, there are no surface water rights to be retained. Based on these facts, the Project would satisfy this finding.

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

   Discussion. With the implementation of MM AG-1, the applicant would be required to comply with *Kings County Development Code* requirements for implementing a pest management plan and weed abatement plan. Therefore, the AMP would specify that native seed mixes used to

revegetate the project site are free of weeds and would ensure that vegetation is actively managed via seasonal sheep grazing. The perimeter 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 AMP but would be restricted to those considered environmentally safe. The AMP would reduce the potential for pests to inhabit the Project site. The AMP 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, if used, would be selected and used in a manner that minimizes impacts to protected biological species. Since the Project would be required to implement MM AG-1, this finding would be satisfied.

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

   Discussion. The Java Project would include fire breaks around the site boundary in the form of access driveways subject to County standards. Interior access within the Project site would be provided from site access driveways. The access and interior driveways would be constructed in accordance with Kings County requirements and maintained to facilitate onsite circulation for emergency vehicles during all weather conditions. Therefore, this finding would be satisfied.

7. *The project shall include 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 per MM AG-4. 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 (MM AG-4) would satisfy this finding.

   > **MM AG-4: Solid Waste Management Plan.** To ensure that solid waste generated during project construction is properly disposed of or recycled, the applicant shall prepare a Solid Waste Management Plan per the requirements of Article 11, Section 1112.B.2 of the *Kings County Development Code*.

8. *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 or is eligible to be cancelled and shall converts to a solar easement.*

   Discussion. A portion of the Project site (Assessor's Parcel Number 024-170-010) is subject to a FSZ contract, specifically Contract No. FSZ00002 in FSZ No. 0002, recorded December 18, 1998, as Document No. 9827240, Kings County Records. In addition, a portion of the Project site (Assessor's Parcel Number 024-170-011) is not restricted by either a FSZ contract or a Williamson Act contract. However, as discussed in detail above, the Java 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 FSZ contracts.

In summary, the Project is consistent with the zoning for the site, and would satisfy all of the specific findings required in the *Kings County Development Code* for the granting of Conditional Use Permits for solar generating facilities. Therefore, the Project would result in a less-than-significant impact with respect to conflicts with the *Kings County Development Code*.

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 in Government Code section 51104[g])?

NO IMPACT. No forest or timberland is present on the Java Project site, and no forest or timber land would be affected by the project.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

NO IMPACT. As discussed above under Section 3.2.2c, no forest land is present in the Project area, and no forest land would be affected by the Project.

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?

LESS THAN SIGNIFICANT. As discussed under items 'a)' and 'b)' above, the Project would implement several mitigation measures that would ensure maintenance of agricultural production on 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 similar 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 no-agricultural use. Therefore, the Project would have a less-than-significant impact.

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3.3 Air Quality

Table 3.3-1 Air Quality Checklist

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

3.3.1 Setting

Existing Air Quality

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41 between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, “Background Information”). The Java Project would be located within the San Joaquin Valley Air Basin (SJVAB).

Air pollution is directly related to a region’s topographic features and the CARB divides California into regional air basins according to topographic air drainage features. The SJVAB, which is approximately 250 miles long and averages 35 miles wide, is the second largest air basin in the state. The SJVAB is defined by the Sierra Nevada to the east (8,000 to 14,000 feet in elevation), the Coast Ranges to the west (averaging 3,000 feet in elevation), and the Tehachapi mountains to the south (6,000 to 8,000 feet in elevation). The valley is generally flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits, where the San Joaquin–Sacramento Delta empties into San Francisco Bay; therefore, the San Joaquin Valley could be considered a “bowl” open only to the north (SJVAPCD 2002).

Although marine air generally flows into the basin from the San Joaquin River Delta, the region’s topographic features restrict air movement through and out of the basin, resulting in weak airflow, which is blocked vertically by high barometric pressure over the San Joaquin Valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (i.e., 1,500 to 3,000 feet). Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation, and fog can exacerbate the air quality problem in the SJVAB. Under California state law, the SJVAB is defined as a distinct

geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health (SJVAPCD 2015).

Criteria Air Pollutants

The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for criteria pollutants that are emitted from numerous and diverse sources considered harmful to public health and the environment. Primary NAAQS have been established to protect public health. Secondary NAAQS have been established to protect public welfare, including protection against visibility impairment; and damage to animals, crops, vegetation, and buildings. The EPA has set NAAQS for seven criteria pollutants:

- Carbon monoxide;
- Lead;
- Nitrogen dioxide;
- Ozone;
- Particulate matter less than or equal to 10 microns in diameter (PM_{10});
- Particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$); and
- Sulfur dioxide.

Ozone is not emitted directly from emission sources but is created at near-ground level by a chemical reaction between NOx and reactive organic gases in the presence of sunlight. As a result, NOx and reactive organic gases are often referred to as "ozone precursors" and are regulated as a means to prevent ground-level ozone formation.

The state has also established California Ambient Air Quality Standards (CAAQS) for these criteria pollutants, as well as ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The NAAQS and CAAQS are summarized in Table 3.3-2.

Table 3.3-2 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[a]		CAAQS[b]
		Primary	Secondary	
CO	8-hour	9 ppm (10 mg/m^3)	–	9 ppm (10 mg/m^3)
	1-hour	35 ppm (40 mg/m^3)	–	20 ppm (23 mg/m^3)
Lead	3-month (rolling average)	0.15 µg/m^3	0.15 µg/m^3	–
	Quarterly	1.5 µg/m^3	1.5 µg/m^3	–
	30-day	–	–	1.5 µg/m^3
NO_2	Annual	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)	0.030 ppm (57µg/m^3)
	1-hour	0.100 ppm[c] (188 µg/m^3)	–	0.18 ppm (339 µg/m^3)
Ozone	8-hour	0.075 ppm[d] (147 µg/m^3)[)]	0.075 ppm[d] (147 µg/m^3)	0.070 ppm (137 µg/m^3)
	1-hour	–	–	0.09 ppm (180 µg/m^3)
PM_{10}	Annual	–	–	20 µg/m^3
	24-hour	150 µg/m^3 [f]	150 µg/m^3 [f]	50 µg/m^3

Table 3.3-2 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[a]		CAAQS[b]
		Primary	Secondary	
$PM_{2.5}$	Annual	12.0 µg/m³ [g]	15.0 µg/m³ [g]	12 µg/m³
	24-hour	35 µg/m³ [h]	35 µg/m³ [h]	–
SO_2	Annual	0.03 ppm	–	–
	24-hour	0.14 ppm	–	0.04 ppm (105 µg/m³)
	3-hour	–	0.5 ppm (1300 µg/m³)	–
	1-hour	0.075 ppm[i] (196 µg/m³)	–	0.25 ppm (655 µg/m³)
Sulfates	24-hour	–	–	25 µg/m³
H_2S	1-hour	–	–	0.03 ppm (42 µg/m³)
Vinyl chloride	24-hour	–	–	0.01 ppm (26 µg/m³)
VRPs	8-hour	–	–	(j)

Sources: 40 CFR Part 50; 17 CCR §§ 70200, CARB 2013.
Key:
µg/m³ = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
H_2S = hydrogen sulfide
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
ppm = parts per million
SO_2 = sulfur dioxide
VRPs = visibility reducing particles
Notes:
[a] Short-term standards (averaging times of 24 hours or less) for CO and SO_2 are not to be exceeded more than once per year.
[b] Standards for ozone, CO (except Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, $PM_{2.5}$, and VRPs, are values that are not to be exceeded. All others are not to be equaled or exceeded.
[c] The 3-year average of the 98th percentile of the daily maximum 1-hour average must not exceed 0.100 ppm.
[d] 2008 standard. The 3-year average of the 4th highest daily maximum 8-hour average concentration over each year must not exceed 0.075 ppm.
[e] 1997 standard. The 3-year average of the 4th highest daily maximum 8-hour average concentration over each year must not exceed 0.075 ppm. This standard and the implementation rules for this standard will remain in place as the U.S. Environmental Protection Agency undertakes rulemaking to address the transition from the 1997 standard to the 2008 standard.
[f] Not to be exceeded more than once per year on average over 3 years.
[g] The 3-year average of the weighted annual mean $PM_{2.5}$ concentrations must not exceed 15.0 µg/m³.
[h] The 3-year average of the 98th percentile of 24-hour concentrations within an area must not exceed 35 µg/m³.
[I] The 3-year average of the 99th percentile of the daily maximum 1-hour average must not exceed 0.075 ppm.
[j] Extinction coefficient of 0.23 per km visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

The EPA compares ambient air criteria pollutant measurements with NAAQS to assess the status of the air quality of regions within the states. Similarly, CARB compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions within the states and California (with regard to CAAQS) are designated as being in one of the following categories:

- *Attainment.* A region is designated as attainment if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, an area that has been recently re-designated from nonattainment to attainment is classified as a "maintenance area" for a 10-year period to ensure that air quality improvements are sustained.

- *Nonattainment.* If the NAAQS or CAAQS is exceeded for a pollutant, then the region is designated as nonattainment for that pollutant. Nonattainment areas can be further classified based on the severity of the exceedance of the relevant standard.
- *Unclassified.* An area is designated as unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

The attainment status of the portion of the SJVAB where the project would be located is summarized in Table 3.3-3.

Table 3.3-3 Attainment Status of the Proposed Project Area

Pollutant	Designation	
	NAAQS	CAAQS
CO	Attainment/Unclassified	Unclassified
Lead	Attainment/Unclassified	Attainment
NO_2	Attainment/Unclassified	Attainment
Ozone (1-hour)	– [(a)]	Nonattainment
Ozone (8-hour)	Nonattainment (extreme)	Nonattainment
PM_{10}	Attainment/Maintenance Area	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
SO_2	Unclassified	Attainment
H_2S	–	Unclassified
Sulfates	–	Attainment
Vinyl Chloride	–	Attainment
Visibility Reducing Particles	–	Unclassified

Sources: 40 CFR Part 81, CCR Title 17 Sections 60200–60210
Key:
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
H_2S = hydrogen sulfide
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
SO_2 = sulfur dioxide
Note:
[a] Although the 1-hour ozone standard was revoked in 1995, this area continues to remain subject to certain requirements for the 1-hour ozone standard through the anti-backsliding provisions in the U.S. Environmental Protection Agency's rule implementing the 8-hour ozone standard.

Valley Fever

Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. In California, the counties with the highest incident of Valley Fever are Fresno, Kern and Kings counties. When soils are disturbed by wind or activities like construction and farming, Valley Fever fungal spores can become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction, agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus. In extreme cases, the disease can be fatal. The majority of

Valley Fever cases are very mild, though, with over 60 percent of infected people having flu-like symptoms or none at all. Notably, occurrences of Valley Fever in California's general population has dramatically increased in the past few years. Annually, 1,430 people are hospitalized with Valley Fever and in 2011, 5,123 people were diagnosed with Valley Fever, a 20 percent increase from 2010 (CDPH 2013).

Applicable Regulations, Plans, and Standards

Ambient air quality and air pollutant emissions from stationary and mobile sources are managed under a framework of federal, state, and local rules and regulations.

Federal

The EPA is the principal administrator responsible for overseeing enforcement of CAA statutes and regulations. Under the CAA, the EPA oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources. The sections of the CAA that are most applicable to the Java Project include Title I (Air Pollution Prevention and Control) and Title II (Emission Standards for Mobile Sources).

Title I of the CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. States are required to submit a state implementation plan (SIP) to the EPA for areas in nonattainment with the NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to achieve attainment with the NAAQS.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

State

The California Clean Air Act (CCAA) outlines a comprehensive statewide air pollution control program in California. CARB is the primary administrator of the CCAA, while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP.

> **Sulfur Content of Diesel Fuel (13 CCR 2281 and 17 CCR 93114).** Pursuant to the California Code of Regulations (13 CCR 2281), the sulfur content of vehicular diesel fuel sold or supplied in California must not exceed 15 parts per million by weight. As stipulated in 17 CCR 93114, non-vehicular diesel fuel is also subject to the sulfur limits specified in 13 CCR 2281. Diesel supplied in California for project vehicles and equipment would be subject to this regulation and, therefore, must have a sulfur content less than or equal to 15 parts per million by weight (CARB 2004).

Local

The CCAA designates local air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The SJVAPCD is the administrator of air pollution rules and regulations within the SJVAB, including Kings County. The SJVAPCD is responsible for implementing measures and local air pollution rules that ensure NAAQS and CAAQS are achieved and maintained. The SJVAPCD issues stationary source air permits, develops emissions inventories, maintains air quality monitoring stations, and reviews air quality environmental documents required by the CEQA.

Plans. The SJVAPCD continuously monitors its progress in implementing air quality plans and periodically reports to CARB and the EPA. It also periodically revises its plans to reflect new conditions and requirements in accordance with mandated schedules.

The SJVAPCD has adopted several attainment plans to achieve compliance with the NAAQS and CAAQS. To address nonattainment status under the NAAQS and CAAQS for ozone, the SJVAPCD adopted the district's 2004 Extreme Ozone Attainment Demonstration Plan (updated in 2008), and the district's 2004 Extreme Ozone Attainment Plan for 1-hour ozone. The SJVAPCD also adopted their 2007 Ozone Plan in April 2007. This plan, which includes innovative measures and a "dual path" strategy, was designed to ensure expeditious attainment of the 8-hour ozone NAAQS. CARB approved the plan and submitted it to the EPA in June 2007.

On April 30, 2008, the District adopted the 2008 $PM_{2.5}$ Plan satisfying all federal implementation requirements for the 1997 federal $PM_{2.5}$ standard. Per guidance from EPA, this plan addressed the 1997 $PM_{2.5}$ standard under Subpart 1 of CAA Title 1, Part D. Subsequently, in 2013, the D.C. Circuit Court ruled that EPA erred by solely using CAA Subpart 1 in establishing its $PM_{2.5}$ implementation rule, without consideration of the PM-specific provisions in Subpart 4. In June 2014, EPA classified the Valley as a "Moderate" nonattainment area under Subpart 4 with an attainment date of April 5, 2015.

Until the exceptional weather conditions experienced due to the recent drought, the SJVAB was on the verge of attaining the 1997 federal $PM_{2.5}$ standard (15 µg/m3 for annual, 35 µg/m3 for 24-hour1) with an average annual concentration of 14.7 µg/m3 and average 24-hour concentration of 56.4 µg/m3 at the Valley's historic peak $PM_{2.5}$ sites in Bakersfield in 2012. Due to the extreme drought, stagnation, strong inversions, and historically dry conditions experienced over the winter of 2013-2014, attainment was impossible even if the Valley experienced zero $PM_{2.5}$ pollution for the last three quarters of 2014. The CAA includes provisions for excluding uncontrollable "exceptional events" from a region's attainment determination, but the current EPA framework specifically excludes stagnation and drought conditions. Given that attaining the standard in 2015 was physically impossible, the District was compelled to submit a formal request for reclassification to "Serious" non-attainment with a new attainment date of December 31, 2015. Unfortunately, the exceptional weather conditions experienced in 2013-2014 also made it impossible to meet the new attainment deadline of December 31, 2015. Therefore, the District submitted a request for a one-time extension of the attainment deadline for the 24-hour standard to 2018 and the annual standard to 2020 (SJVAPCD 2015).

The 2015 Plan for the 1997 $PM_{2.5}$ Standard, approved by the District Governing Board on April 16, 2015, will bring the Valley into attainment of EPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than December 31, 2020 (SJVAPCD 2015).

Rules and Regulations. The SJVAPCD administers a comprehensive list of rules and regulations to protect air quality. The local regulatory provisions applicable to the Java Project include, but are not limited to:

[1] In December 2012, the EPA revised the primary annual PM2.5 standard from 15 µg/m3 to 12 µg/m3 for the protection of public health.

- *Regulation VIII: Fugitive PM_{10} Prohibitions.* Regulation VIII consists of a series of rules intended to reduce the generation of fugitive PM_{10} dust from a number of different types of activities:

  Rule 8011: General Requirements;

  Rule 8021: Construction, Demolition, Excavation, Extraction and Other Earthmoving Activities;

  Rule 8031: Bulk Materials;

  Rule 8041: Carryout and Trackout;

  Rule 8051: Open Areas;

  Rule 8061: Paved and Unpaved Roads;

  Rule 8071: Unpaved Vehicle/Equipment Traffic Areas; and

  Rule 8081: Agricultural Sources.

  A summary of the control measures required under Regulation VIII to control fugitive dust during project construction activities is presented in Table 3.3-4, below. Pursuant to Rule 8021, a dust control plan needs to be submitted to the SJVAPCD prior to the start of any construction activity on a site that will include five acres or more of disturbed surface area for non-residential development or moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. Construction activities shall not commence until the SJVAPCD has approved or conditionally approved the dust control plan.

- *Rule 9510: Indirect Source Review.* The purpose of the SJVAPCD's Indirect Source Review (ISR) Program is to reduce engine exhaust emissions of NOx and PM_{10} from new development projects through project design elements or by payment of applicable offsite fees. The ISR rule seeks to reduce the growth in NOx and PM_{10} emissions associated with construction and operation of new development, transportation and transit projects in the San Joaquin Valley. The ISR rule requires developers to reduce construction NOx and PM_{10} exhaust emissions by 20% and 45%, respectively, and reduce operational NOx and PM_{10} emissions by 33.3% and 50%, respectively, as compared to the unmitigated baseline. Developers can achieve the required reductions through any combination of District-approved, onsite emission reduction measures.

  An applicant subject to District Rule 9510 is required to submit an Air Impact Assessment application to the SJVAPCD no later than applying for final discretionary approval and pay any applicable offsite mitigation fees before issuance of the first building permit (SJVAPCD 2005). Under the rule, Air Impact Assessment applications are required to be submitted to the SJVAPCD for projects that include at least 50 residential units; 2,000 square feet of commercial space; 9,000 square feet of educational space; 10,000 square feet of government space; 20,000 square feet of medical or recreational space; 25,000 square feet of light industrial space; 39,000 square feet of general office space; 100,000 square feet of heavy industrial space; or 9,000 square feet of any land use not identified above.

- *Other District Rules and Regulations.* The Java Project may be subject to additional District Rules and Regulations, such as: Regulation VIII (Fugitive PM_{10} Prohibitions) and other regulations, depending upon final design.

Table 3.3-4 Required Fugitive Dust Control Measures for Construction Emissions of PM10 Under SJVAPCD Regulation VIII

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- **Pre-activity:**
  - Pre-water site sufficient to limit visible dust emissions (VDE) to 20 percent opacity, and phase work to reduce the amount of disturbed surface area at any one time.
- **During Active Operations:**
  - Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20 percent opacity.
  - Construct and maintain wind barriers sufficient to limit VDE to 20 percent opacity (optional).
  - Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20 percent opacity and meet the conditions of a stabilized, unpaved road surface.
- **Temporary Stabilization during Periods of Inactivity:**
  - Restrict vehicular access to the area and apply water or chemical/organic stabilizers/suppressants sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acres or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011.
- Limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.
- Post speed limit signs that meet state and federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled, unpaved access/haul roads.
- Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever VDE exceeds 20 percent opacity.
- In addition to these requirements, a person shall comply with all other applicable requirements of Regulation VIII.

Source: SJVAPCD 2015; SJVAPCD Rule 8021

CEQA Guidance. The SJVAPCD developed the Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015) as an advisory document to provide lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. The SJVAPCD also developed the Guide for Assessing and Mitigating Air Quality Impacts: Technical Document – Information for Preparing Air Quality Sections in EIRs (SJVAPCD 2002) as a companion document to the Guide for Assessing and Mitigating Air Quality Impacts.

Quantitative significance thresholds set by the SJVAPCD for operations-related air emissions are presented in Table 3.3-5.

Table 3.3-5: SJVAPCD Criteria Pollutant Emissions Significance Thresholds (tons per year, or tpy)

Pollutant/ Precursor	Construction Emissions	Operational Emissions	
		Permitted Sources and Activities	Non-Permitted Sources and Activities
ROG	10	10	10
NOx	10	10	10
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15
CO	100	100	100
SO_X	27	27	27

Key:
CO = carbon monoxide
NO_x = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
ROG = reactive organic gases
SO_x = oxides of sulfur
Source: SJVAPCD 2015, Section 8.3

The SJVAPCD has determined that PM_{10} is the pollutant of greatest concern with regards to construction, and that construction-related emissions of carbon monoxide and ozone precursors may cause a significant air quality impact only in the case of very large or intense construction projects (SJVAPCD 2015).

3.3.2 Environmental Impacts and Mitigation Measures

Project construction of the Java Project is anticipated to take approximately eight months to complete. Construction would be divided into different phases, which are described in Chapter 1, “Background Information.” The different construction phases may be completed concurrently (i.e., construction schedules would potentially overlap). During project construction, air pollutants would be emitted from the combustion of gasoline and diesel in on-road vehicles (i.e., worker vehicles, crew work trucks, and delivery trucks) and off-road equipment (i.e., bulldozers, graders, and backhoes). Onsite earthmoving activities and vehicle travel on local roads and access driveways would also generate fugitive dust emissions.

Criteria air pollutant emissions were estimated for each construction phase using the CalEEMod (v2013.2.2) emissions model and published emission factors, which is a model approved by the SJVAPCD as a tool to quantify project emissions (SJVAPCD 2015, p.56). The total projected emissions over the duration of project construction are summarized in Table 3.3-6. A detailed description of construction emission calculations is presented in Appendix A.

Table 3.3-6 Summary of Project Emissions

Project Phase	Annualized Emissions (tons/year)									
	ROG	NO_x	CO	SO_2	Dust PM_{10}	Exhaust PM_{10}	Total PM_{10}	Dust $PM_{2.5}$	Exhaust $PM_{2.5}$	Total $PM_{2.5}$
Unmitigated Construction	0.28	2.65	2.02	0.0043	1.85	0.13	**1.98**	0.08	0.12	**0.2**
Mitigated Construction	0.28	2.65	2.02	0.0043	0.98	0.13	**1.1**	0.08	0.12	**0.2**
Unmitigated Operational	0.002	0.012	0.055	0.0003	0.92	0.001	**0.92**	0.092	0.001	**0.093**
Mitigated Operational	0.002	0.012	0.055	0.0003	0.28	0.001	**0.28**	0.028	0.001	**0.028**

Key:
CO = carbon monoxide
NO_x = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
ROG = reactive organic gases
SO_x = oxides of sulfur
Source: E & E 2016 (See Appendix A)

Following construction and during the normal operation of the Java Project, it is anticipated that air pollutant emissions would be emitted from on-road vehicles and off-road equipment associated with periodic system inspection and maintenance. Maintenance would include solar panel washing, which would the use of a robotic system or the use of up to two water trucks slowly driving across the Java Project site[2] while cleaning the solar panels to maintain efficient production of electricity. Emissions would also be generated from worker commuting vehicles and, as needed, delivery trucks. Vehicle travel on local roads and access driveways would also generate fugitive dust emissions. Estimated annual emissions associated with Java Project operation and maintenance are summarized in Table 3.3-6. A detailed description of operational emission calculations is presented in Appendix A.

Note that the unmitigated construction and operational emissions are below the significance thresholds presented in Table 3.3-5. However, the applicant intends to institute additional voluntary mitigation, further reducing emissions to the levels presented in Table 3.3-6 as Mitigated Construction and Mitigated Operational emissions.

[2] The applicant frequently performs this activity by using a robotic system that is lifted from a standard pick-up truck onto a row of panels. However, as a conservative scenario, this analysis assumes the use of water trucks for solar panel washing during maintenance activities. Therefore, actual maintenance emissions from solar panel washing would be below those shown in Table 3.3-6.

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

LESS THAN SIGNIFICANT. The SJVAPCD has adopted several attainment plans that outline the long-term strategies designed to achieve compliance with the NAAQS and CAAQS. According to SJVAPCD (2015, par. 7.12, page 65), "projects with emissions below the thresholds of significance for criteria pollutants would be determined to 'Not conflict or obstruct implementation of the District's air quality plan.'" The thresholds of significance for criteria pollutants established by the SJVAPCD are presented in Table 3.3-5. The Project emissions reported in Appendix A, which are summarized in Table 3.3-6, are all below the thresholds of significance. Therefore, the Java Project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be less than significant during construction and operation.

As noted in Chapter 1, decommissioning of the Java Project is expected to involve a similar level of activity and duration as construction. As discussed above, construction emissions are calculated to be well below the SJVAPCD thresholds for each pollutant, which would also be expected to be the case for decommissioning emissions. Decommissioning activities are generally similar and often less than construction. Therefore, assuming that decommissioning emissions would be similar to construction emissions represents a conservative assumption. Therefore, Project decommissioning would not conflict with or obstruct implementation of an applicable air quality plan, and the Project's decommissioning impact would also be less than significant.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

LESS THAN SIGNIFICANT. In general, violations of air quality standards can be assessed by calculating the ambient air concentrations of the emitted pollutants using atmospheric dispersion modeling. However, when the project emissions are below a certain threshold, the SJVAPCD does not require dispersion modeling, recognizing that relatively low levels of emissions are unlikely to result in a violation of the air quality standards. In particular, SJVAPCD (2015) recommends that an ambient air quality analysis be performed when emissions of any criteria pollutant resulting from project construction or operational activities exceed a screening level of 100 pounds per day (SJVAPCD 2015, Page 96 and 97). Table 3.3-6 shows that NOx during construction is the pollutant emitted in the greatest quantity, totaling 2.65 tons per year. Assuming 170 working days during the 8 months of construction, emissions of NOx would amount to about 34 lb/day, which is below the 100 lb/day screening level. The remaining criteria pollutants are even further below the NOx emissions.

Construction emissions of all criteria pollutants are below their respective significance thresholds. Project construction activities would be short term and would only impact specific locations for limited durations. In addition, construction activities would be conducted with the measures required under Regulation VIII to control fugitive dust during construction activities (as presented in Table 3.3-4), which would result in a further reduction of the impact. A dust control plan would also be submitted to the SJVAPCD pursuant to Rule 8021. Therefore, emissions generated during construction would cause temporary, minor increases in ambient air pollutant concentrations.

Project operations would generate minor emissions from a small number of vehicles and equipment used during the inspection and maintenance of the solar panels, and inspections and maintenance of the power line. Solar panel washing would occur several times per year, with the use of a robotic panel washing system which does not generate emissions. As shown in Table 3.3-6, the Java Project's operational emissions of all criteria pollutants would be less than their respective significance thresholds.

Construction and operation emissions would, therefore, be less than significant, and are below the screening level required to perform dispersion modeling, indicating that the Java Project would neither violate air quality standards nor contribute substantially to an existing or projected air quality violation.

As noted in Chapter 1, decommissioning of the Java Project is expected to involve a similar level of activity and duration as construction. As discussed above, construction emissions are calculated to be well below the SJVAPCD thresholds for each pollutant, which would also be expected to be the case for decommissioning emissions. Therefore, Project decommissioning would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and the project's air quality impact from decommissioning emissions would be less than significant.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

LESS THAN SIGNIFICANT. The region where the Java Project would be built is designated as nonattainment for the ozone precursors PM_{10} and $PM_{2.5}$. The SJVAPCD (2015) states that if project emissions exceed the significance thresholds for the criteria pollutants, a project would have a cumulative, as well as an individual, significant impact.

The SJVAPCD significance thresholds for PM_{10} and $PM_{2.5}$, presented in Table 3.3-5, are each 15 tons per year, for construction and operational emissions. Table 3.3-6 shows that PM_{10} from project construction activities is the pollutant emitted in the greatest quantity, totaling 1.98 tons per year before the applicant's voluntary mitigation, and 1.1 tons per year after mitigation. Emission levels below the significance thresholds are not expected to cause exceedance of the air quality standards in the vicinity of the source, which is the area of highest concentrations. In the case of the Java Project, because the construction emissions of PM_{10} before the applicant's voluntary mitigation are much smaller than the significance thresholds, the ambient air concentrations would also be expected to be well below the air quality standards in the vicinity of the source, decreasing even further with distance from the source.

In order to assess cumulative impacts, the significance of the incremental effects of the Java Project was estimated in connection with the effects of past, current, and probable future projects within the same geographic area. A list of projects considered for the cumulative analysis was compiled using data provided by the Kings County Community Development Agency, and is presented in Table 3.18-2 in Section 3.18, "Mandatory Findings of Significance." The projects with a potential to generate emissions that would cumulate with those of the Java Project are all solar plants, either under construction or operational.

The projects closest to the Java Project site which are expected to be under construction in the same area and during the same timeframe are six solar project, all located between 1.6 and 5 miles from the proposed project site. Three more solar plants are located farther away, at distances equal or larger than 14 miles from the Java Project site. A summary of the projects under construction and their distance from the proposed project is presented in Section 3.18, "Mandatory Findings of Significance." Assuming a similar level of construction emissions from all the solar projects in the area, and making the conservative assumption that construction activities from all the plants would occur during the exact timeframe as the Java Project, the total construction emissions of PM_{10} from all the solar projects in the area could be estimated to be about 14 tons per year, which is below the significance threshold of 15 tons per year for a project's construction emissions. In addition, the significance thresholds have been designed to provide reference emission levels for the most conservative scenario, which is a single source. Emissions originating from multiple sources distributed over an area have substantially lower air quality impacts compared to a single source. Therefore, it can be reasonably inferred that the cumulative air quality

impacts of PM_{10} emissions are expected to be well below the air quality standards and, therefore, would not result in a considerable net increase of PM_{10} levels in the region.

Operational emissions of PM_{10} from the Java Project total 0.92 tons per year before mitigation and .28 tons per year after mitigation. These emissions would cumulate in the same area with operational emissions of 4 solar plants, located at distances ranging from about 0.45 miles to 5 miles. A summary of the projects in operation and their distance from the Java Project is reported in Appendix A.

Operational emissions from the Project are lower than construction emissions and would cumulate with similar levels of operational emissions from a smaller number of projects compared to the projects under construction in the same area. Therefore, the cumulative impacts from operational emissions of PM_{10} would also be expected to be below the air quality thresholds and, therefore, would not result in a considerable net increase of PM_{10} levels in the region.

Therefore, the Java Project would not result in a cumulatively considerable net increase of any criteria pollutants for which the region is nonattainment, and impacts under this criterion would be less than significant.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

LESS THAN SIGNIFICANT WITH MITIGATION. Sensitive receptors include schools, day-care centers, hospitals, residential areas, and other sensitive uses. In order to assess potential health risks, the SJVAPCD (2015) recommends screening tools for Toxic Air Contaminant to identify potential conflicts between land use and sensitive receptors. SJVAPCD (2005; Sect. 6.5, page 44) indicates the following sources as projects that have the potential to cause long-term public health risk impacts: Gasoline dispensing facilities; Asphalt batch plants; Warehouse distribution centers; New freeways or high traffic roads; and Other stationary sources that emit toxic substances. The Air Quality and Land Use Handbook (ARB 2005) indicates the following categories: High traffic freeways and roads; Distribution centers; Rail yards; Ports; Refineries; Chrome plating facilities; Dry cleaners; and Large gas dispensing facilities. The Project does not strictly belong to any of the above categories. However, most of the operational emissions from this Project are represented by exhaust gases and fugitive dust vehicle traffic generated by mobile sources. ARB 2005 recommends that sensitive receptors should be located farther than 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.

The nearest sensitive receptors to the Java Project would be scattered residences along SR-41, Jersey Avenue, and Kent Avenue, located less than half a mile from the site perimeter. The nearest residence is located approximately 585 feet west of the site. There are no schools, day-care centers, retirement homes, or medical offices within a mile of the Java Project site. Overall, since the traffic generated by the project is a very small fraction of the above figures considered by ARB, it is safe to conclude that the project would not expose sensitive receptors to substantial pollutant concentrations.

In addition, workers may be exposed to Valley Fever spores during construction, which would be a significant impact. Although the applicant includes standard practices to reduce fugitive dust in all of their projects, implementation of MM AIR-1would be required to reduce impacts to less than significant.

> **MM AQ-1: Reducing Valley Fever Exposure.** In order to reduce exposure of the public and workers from Valley Fever spores during ground disturbing activities, 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.

- When exposure to dust is unavoidable for workers who will be disturbing the top 2-12 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)."

As noted in Chapter 1, decommissioning of the Java Project is expected to involve a similar level of activity and duration as construction. As discussed above, construction emissions are calculated to be well below the SJVAPCD thresholds for each pollutant, which would also be expected to be the case for decommissioning pollutants. In addition, the potential for exposure to Valley Fever would be similar. Therefore, during project decommissioning, workers would have a similar level of exposure to Valley Fever. MM AIR-1 would reduce the exposure of sensitive receptors to substantial pollutant concentrations, such as Valley Fever spores, and therefore, the Project's impact would be less than significant.

e. Would the project create objectionable odors affecting a substantial number of people?

NO IMPACT. The SJVAPCD 2015 Guidance for Assessing and Mitigating Air Quality Impacts includes a table to serve as a screening tool for assessing potential odor sources (page 103, Table 6). The table lists several common odor producing land uses, and a distance from each use to sensitive receptors beyond which significant impacts from objectionable odors are not anticipated. The list is not exhaustive, and the guidance document states that a lead agency should "evaluate facilities not included in the table . . . if warranted by local conditions or special circumstances." The solar facility would not be a source of any odor once in operation, but the combustion of fuel by construction vehicles would emit odors during construction. No other source of odor is anticipated during construction. The construction of a commercial grade PV solar facility is not listed within SJVACPCD's table, and no special circumstances warrant further review. Construction would last only eight months, and the nearest sensitive receptors would be scattered residences along SR-41, Jersey Avenue, and Kent Avenue, with the nearest residence approximately 585 feet to the west of the site. There are no schools, day-care centers, retirement homes, or medical offices within a mile of the site. A reasonable inference may be drawn from common experience that odors from the combustion of fuel during temporary construction activities at distances in excess of 585 feet from the nearest sensitive receptors would not be objectionable. Therefore, a substantial number of people would not be affected, and there would be no impact under this criterion during construction and operation.

As noted in Chapter 1, decommissioning of the Java Project is expected to involve a similar level of activity and duration as construction. As discussed above, objectionable odors during construction would be less than significant. Similarly, during project decommissioning, the Project would not create objectionable odors that would affect a substantial number of people. The Project would have no impact under this criterion during decommissioning.

References

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3.4 Biological Resources

Table 3.4-1 Biological Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.4.1 Environmental Setting

The Java Project would occupy approximately 96 acres of previously disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues. Surrounding land consists of a mix of fallow and active agriculture and solar development sites but has been managed in the past for sheep grazing, orchards, cotton, and poultry operations. Immediately to the west of the Java Project site, across SR-41, there are several man-made evaporation ponds (Figure 3.4-1). During surveys, spreading alkaliweed (Cressa truxillensis) dominated the Java Project site.

Soils on the Java Project site are poorly to somewhat poorly drained, relatively deep (i.e., more than 80 inches to restrictive layer), sandy loams, with approximately 90 acres being Lemoore sandy loam (NRCS 2015) (Table 3.4-1). Lands surrounding and in the general vicinity of the Java Project site are generally level, irrigated, and both actively farmed and fallow agricultural lands, as well as solar development sites.

Table 3.4-1. Soil Types by APN

APN	Soil Map Unit Name
024-170-010	Lemoore sandy loam, partially drained
	Grangeville sandy loam, saline-alkali
	Homeland fine sandy loam, partially drained
	Lakeside loam, partially drained
024-170-011	Lemoore sandy loam, partially drained

Source: NRCS 2015

There are two irrigation ditches running through the Java Project site: one un-vegetated ditch runs northeast-southwest through APN 024-170-011 (DR-1) and the other, a partially vegetated ditch runs north-south adjacent off-site along the eastern boundary of APN 024-170-011 and onsite through the western third of APN 024-170-010 (DR-4) (Appendix B-1). A vegetated irrigation ditch also runs along the southern border of the APN 024-170-010 offsite on an adjacent property (DR-3). There are no bodies of water on the Java Project site; however, the Westlake Farms ponds are approximately 200 feet to the west, across SR-41, which separates these ponds from the Java Project site. These ponds provide suitable habitat for upland birds and waterbirds. Though the ponds were completely dry during surveys, historical images show that the ponds have been flooded in the past (Appendix B-1).

3.4.1.1 Data Sources

Literature Review

To determine potential impacts of the Java Project on rare, threatened, or endangered plants and animals (hereafter referred to collectively as "special status species"), databases and other public information were searched. Special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); plants occurring on lists maintained by the California Native Plant Society; and bird species that are protected under the Migratory Bird Treaty Act (MBTA). The literature review involved searching for occurrence records of special status plant and animal species, designated critical habitat for listed species, and sensitive terrestrial communities, as contained in the following databases:

- California Department of Fish and Wildlife Biogeographic Data Branch, Special Animals List;
- California Native Plant Society Inventory of Rare and Endangered Plants of California;
- CDFW California Natural Diversity Data Base Biogeographic Information and Observation System;
- Cornell Lab of Ornithology's eBird database;
- U.S. Department of Agriculture Natural Resources Conservation Service, *Web Soil Survey*;
- U.S. Fish and Wildlife Service Critical Habitat Portal;
- U.S. Fish and Wildlife Service Information for Planning and Conservation; and
- U.S. Fish and Wildlife Service National Wetlands Inventory.

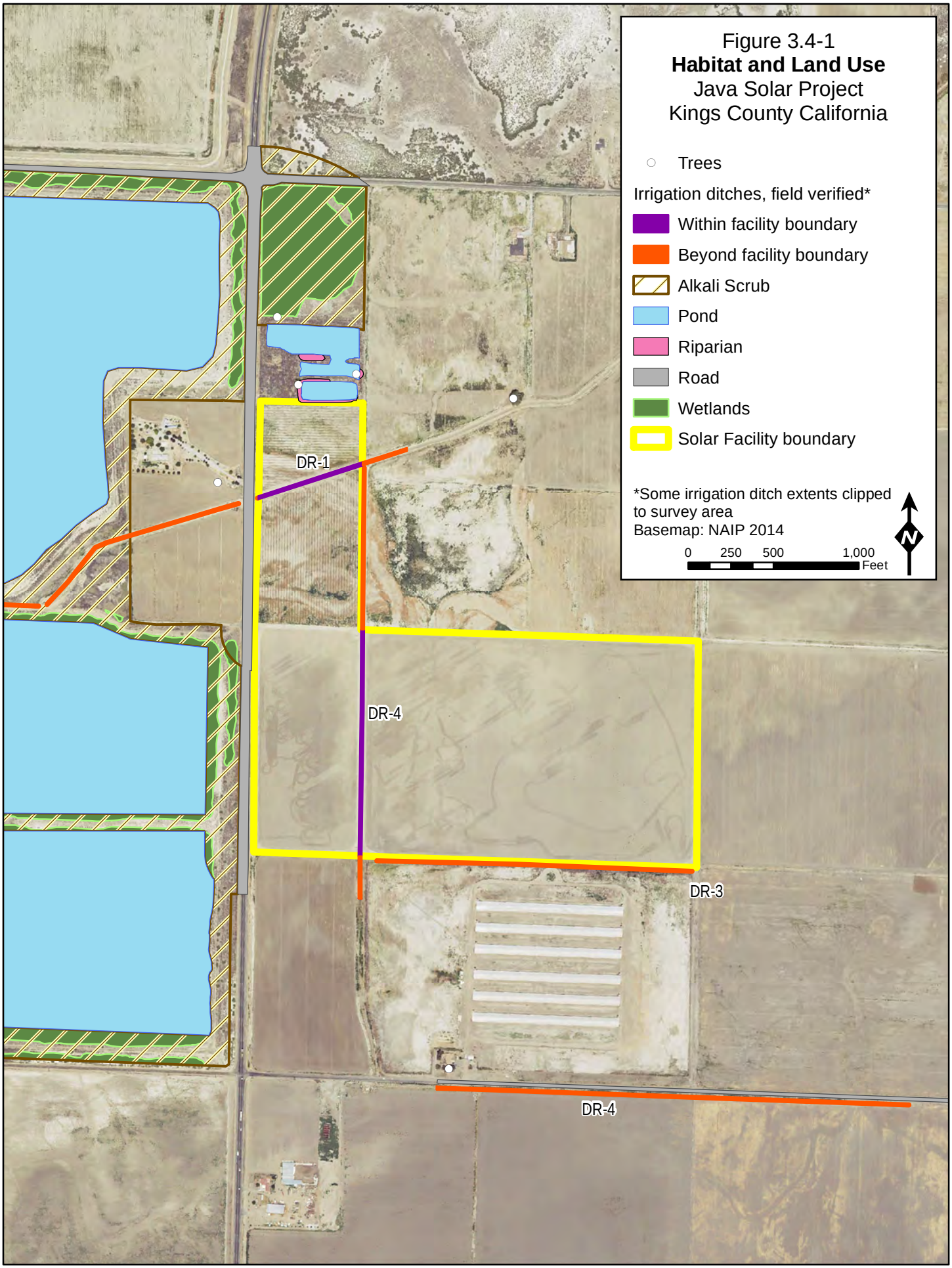
Figure 3.4-1
Habitat and Land Use
Java Solar Project
Kings County California
Trees
Irrigation ditches, field verified*
Within facility boundary
Beyond facility boundary
Alkali Scrub
Pond
Riparian
Road
Wetlands
Solar Facility boundary
*Some irrigation ditch extents clipped to survey area
Basemap: NAIP 2014
0 250 500 1,000 Feet
N
DR-1
DR-4
DR-3
DR-4

In addition to the databases reviewed above, biologists also reviewed aerial photographs and GIS data layers of the Java Project site and surrounding areas, including soils, topography, and municipal reference layers. Biologists also reviewed two biological resources studies prepared for the nearby SunPower Henrietta Solar Project (Michael Brandman Associates 2012 and E & E 2015b), in addition to the Biological Resources Study completed for the Kings County Planning Agency in 2008 (Halstead & Associates 2008).

Special status species listings were compiled from California Natural Diversity Data Base (CNDDB) "Rarefind" information from the 7.5 minute series U.S. Geological Survey El Rico Ranch, Guernsey, Hanford, Kettleman City, Lemoore, Stratford, Stratford SE, Vanguard, and Westhaven quadrangle maps (quad maps) (CNDDB 2015). Special status species records in the CNDDB (2015) report within a 5-mile radius (10 miles for large raptors) of the Java Project site were consulted to help generate records of species occurrences in the vicinity of the Java Project.

Field Surveys

Field surveys were undertaken to provide an assessment of the onsite biological resources and potential presence of sensitive biological resources. The surveys included assessing habitat suitability for special status species, sensitive vegetation communities, water features and wetlands, riparian habitat, and potentially suitable nesting habitat for birds. Complete field results for the biological surveys are included in Appendix B-1, "Draft Biological Resources Report, Java Solar Property, Kings County, California."

Field investigations were conducted in November 2014, January and December 2015, and January, February, and March 2016. A wintering waterbirds survey, consisting of 1-hour surveys beginning one half-hour after sunrise, was completed on November 3rd and 4th, 2014 at the southernmost Westlake Farms ponds. The January 2015 surveys were completed in the vicinity of the Java Project site, as well as on the property itself. Biologists surveyed the Java Project site and a 250-foot buffer for terrestrial wildlife and habitat. E & E biologists walked portions of the Java Project site, focusing on areas with the greatest potential to support wildlife, and drove accessible areas within 0.5-mile of the property to survey for birds and wildlife. The December 2015 survey included areas along the irrigation ditch, which runs adjacent to the eastern edge of APN 024-170-011 and through the western third of APN 024-170-010 (Appendix B-1). Burrowing owl surveys were completed in February and March 2016. Surveys consisted of walking transects of the Java Project site and using binoculars to survey those adjacent parcels with suitable habitat, and suitable burrows were mapped with GPS (Appendix B-2; E & E 2016).

3.4.1.2 General Site Characteristics

The Java Project would be located in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore (Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The site can be accessed via the intersection of SR-41 and the Java Avenue Alignment. At its closest point, the Kings River is approximately 2 miles west of the Java Project site. The Project site is flat with no notable topographical variations. There are no residences or structures onsite, with the exception of a row of wooden utility poles and low-voltage power lines along SR-41, which form the western border of the Java Project site. The parcels have been managed as agricultural land for decades, consisting of row crops and grain, and have been tilled regularly.

At the time of the biological surveys in November 2014 and January 2015, APN 024-170-010 had been recently tilled and characterized by sparsely vegetated bare land, and APN 024-170-011 consisted of an overgrown, fallow pomegranate orchard with underdeveloped trees remaining on site. Disturbance-tolerant weeds were prevalent along roadsides and in uncultivated parcels adjacent to the site (E & E 2015a). While there are no suitable nesting trees on the Java Project site, scattered trees occur in the vicinity of the site, with the largest concentration located north of APN 024-170-011 (E & E 2015a). Further information on survey results and site characteristics are presented in Appendix B-1, "Biological Resources Report, Java Solar Property, Kings County, California."

Biological field surveys identified two irrigation ditches, and one additional ditch, on or adjacent to the Java Project site (E & E 2015a). DR-1 is an onsite northeast-southwest, unvegetated irrigation ditch running through APN 024-170-011. DR-4 is a partially vegetated, north-south irrigation ditch running onsite through the western third of APN-170-010 and offsite along the eastern boundary of APN 024-170-011. DR-3 is an offsite vegetated ditch running east west, just south of the APN 024-170-010 property boundary.

3.4.1.3 Common and Sensitive Natural Communities

Due to limited distribution in California, most wetlands, riparian communities, and annual grasslands are considered sensitive natural communities by CDFW. These habitats frequently support special status species. Field surveys identified the highest quality habitat at the Westlake Farms ponds across SR-41 from the Java Project site, which host more than 130 species of birds throughout the year (E & E 2015a). Although the ponds were nearly dry during surveys, aerial images show past flooding (Google Earth 2015). Valley sink scrub, which is considered a sensitive vegetation community by CDFW, was found surrounding the Westlake Farms ponds and within the parcel north of the Project site. The two irrigation ditches onsite did not contain water during surveys and were unvegetated, rendering them low quality wildlife habitat.

3.4.1.4 Special Status Species

Database searches and field surveys identified the potential for the occurrence of 21 special status species, including 3 plants and 18 animals, on or in close proximity to the Java Project site (E & E 2015a) (Table 3.4.2). These species are listed as threatened or endangered at the federal or state levels, or are considered California Species of Special Concern (SSC).

The species listed in Table 3.4.2 are those deemed to have a potential to occur on the project site, based on a review of CNDDB occurrences within the Stratford quadrangle and 8 surrounding quads, USFWS Information for Planning and Conservation (USFWS 2016), the Biological Resources Survey Report completed for Kings County (Halstead & Associates 2008), and survey results. Species which have historically occurred in the County were dismissed from this analysis if they had no potential to occur based on habitat requirements or if the current range of the species no longer overlaps the vicinity of the project area (Appendix B-1, Page 2-2).

Note that the majority of bird species in the Project area are more likely to occur at the Westlake Farms Ponds and not on the Project site; however, these species are categorized as having Low to Moderate Potential, depending upon the specific characteristics of the species.

Table 3.4.2 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific	Description & Habitat	Status	Occurrence
Plants				
Recurved larkspur	*Delphinium recurvatum*	Medium-sized, perennial herb with purple flowers, blooming from March through June. Occurs in valley and foothill grasslands, chenopod scrub, and cismontane woodland below elevations of 2,500 feet. Occurs in the Sacramento and San Joaquin Valleys.	1B.2	Low Potential. Marginal, degraded habitat occurs in the survey area. No California Natural Diversity Data Base (CNDDB) occurrence within 10 miles of the project site, within the past 100 years.
San Joaquin woollythreads	*Monolopia congdonii*	Small, silver-leaved annual forb with yellow disc flowers blooming from April through June. Occurs in grasslands or chenopod scrub on sandy soils. Found between 200 and 2,800 feet. Known to occur in Fresno, Kings, Kern, and Santa Barbara counties.	FE, 1B.2	Low Potential. Marginal, degraded habitat occurs in the survey area. No CNDDB occurrence within 10 miles of project site.
Mud nama	*Nama stenocarpa*	Small, annual or perennial herb that blooms from January to July. Found in freshwater wetlands along the margins of lakes or streams. This species has been documented within 10 miles of the Java Project site.	2.2	Low Potential. Marginal, degraded habitat occurs on in the survey area. Nearest CNDDB occurrence 8.3 miles southeast of project site, from 1990.
Birds				
Tricolored blackbird	*Agelaius tricolor*	Occurs in freshwater marshes of primarily cattails and tule, and nests in herbaceous vegetation or thickets from April through June. Winter foraging and migration occurs also in croplands and pastures. A permanent resident in much of California's Central Valley.	SE	Low Potential. Suitable nesting habitat is not present in the survey area. Marginal nesting habitat occurs within the Westlake Farms ponds adjacent to the survey area. Nearest CNDDB occurrence 5.3 miles northwest of site, from 2008.

Table 3.4.2 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific	Description & Habitat	Status	Occurrence
Burrowing owl	*Athene cunicularia*	Typically occurs in open, dry, annual or perennial grasslands, agricultural areas, and in desert and scrublands characterized by low-growing vegetation. Occupies mammal burrows for shelter and nesting. Occurs over a wide range in western North America.	BCC, SSC	Moderate Potential. Burrowing owl sign were present in an adjacent irrigation ditch off-site (Appendix B-1); however no individuals or secondary sign were present during subsequent surveys (Appendix B-2). Habitat in the survey area is generally disturbed and unlikely to support nesting pairs; however, foraging and nesting habitat occurs on bordering or adjacent lands. Nearest CNDDB occurrence 5 miles northwest, from 2000.
Swainson's hawk	*Buteo swainsoni*	Nests and roosts in tall deciduous trees in or near riparian habitats. Foraging occurs in grasslands, irrigated pastures, and grain fields primarily on small mammals, but also reptiles, birds, insects, and occasionally carrion. Known to occur in Kings and Fresno counties.	ST	Moderate Potential. Known to be in the vicinity, and to have nested in the vicinity of the survey area in 2011. No suitable habitat for this species exists on the solar facility site itself, but adjacent parcels could provide foraging habitat. Four CNDDB occurrences within 10 miles of the project site since 2003.
Western snowy plover (interior population)	*Charadrius alexandrinus nivosus*	Occurs on beaches, dry mud or salt flats, and sandy shores of rivers, lakes, and ponds. Nesting occurs between April and August on the ground where vegetation is sparse or absent. Forages for small invertebrates. Known to occur in Kings County.	SSC	Low Potential. Known to occur year-round in the Westlake Farms ponds, nearest CNDDB occurrence .5 miles southwest of site (1987). No suitable habitat for this species exists on the solar facility site itself.
Northern harrier	*Circus cyaneus*	Typically favor sloughs, wet meadows, marshlands, swamps, and open plains and grasslands. Ground nesting usually occurs near or on water. Requires open areas with low vegetation for foraging.	SSC	Present. Observed foraging in the eastern portion of the project site during surveys. Suitable foraging habitat exists in the survey area. Unlikely to nest on the solar facility site.

Table 3.4.2 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific	Description & Habitat	Status	Occurrence
Peregrine falcon	*Falco peregrinus*	Nests on cliffs, or, rarely, on tall buildings or bridges, generally near water. Forages in a wide range of habitat, including coastal marshes, pastureland, major riverways and lakeshores.	Recovered/Delisted (FE, SE), FP	Moderate Potential. Observed offsite in the vicinity during surveys. Suitable foraging habitat exists in the survey area. No suitable breeding habitat in the vicinity of the survey area.
Loggerhead shrike	*Lanius ludovicianus*	Occurs in open country with scattered trees or shrubs. Suitable perches on poles or shrubs are important for foraging on insects, reptiles, and small mammals. Has a wide distribution throughout California.	BCC, SSC	Low Potential. Suitable foraging habitat exists in the survey area. Unlikely to nest on the solar facility site.
American white pelican	*Pelecanus erythrorynchos*	Breeds on isolated islands in freshwater lakes and forages on inland marshes and lakes, often more than 25 miles from breeding grounds.	SSC (breeding colonies only)	Low Potential. Observed offsite in the vicinity during surveys. Known to occur year-round at Westlake Farms ponds. Unlikely to nest at the Westlake Farms ponds. No suitable breeding habitat occurs on the solar facility site.
White-faced ibis	*Pledagis chihi*	Inland, nests in shallow marshes with emergent vegetation or on spoil banks created by dredging. Forages in shallowly flooded wetlands of short, emergent plants or in agricultural habitats in California.	SSC (breeding colonies only)	Low Potential. Observed offsite in the vicinity during surveys. Known to occur year-round at Westlake Farms ponds. Unlikely to nest at the Westlake Farms ponds. No suitable breeding habitat occurs on the solar facility site.
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	Occurs and nests in freshwater wetlands with cattail, tule, or bulrush. Forages in cultivated lands and open fields for seeds and insects. Known to occur in Kings County and over a wide range in North America.	SSC	Low Potential. Suitable nesting habitat is not present on or directly adjacent to the solar facility site. Marginal nesting habitat occurs within the Westlake Farms ponds.

Table 3.4.2 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific	Description & Habitat	Status	Occurrence
		Mammals		
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	Occurs on friable soils in areas with little or no shrub cover and scattered herbaceous plants, including valley grassland, saltbush, and sink scrub. Forages primarily on seeds, but also on vegetation and insects. Known to occur only in Kings, Madera, and Fresno counties.	FE, SE	Low Potential. Highly degraded habitat occurs in the survey area. One population on Naval Air Station Lemoore has been recorded (2.5 miles from the survey area) (Morrison, Mills, and Kuenzi 1996).
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	Occurs on friable soils in areas with little or no shrub cover and scattered herbaceous plants, including valley grassland, saltbush, and sink scrub. Forages primarily on seeds, but also on vegetation and insects. Occurs in a limited range from the Carrizo Plain to the Tehachapi area. Known to occur in Kings County.	SSC	Low Potential. Marginal habitat occurs in the survey area. Nearest CNDDB occurrence 0.9 miles north of the project site, from 2008.
Buena Vista Lake shrew	*Sorex ornatus relictus*	Occurs in riparian, marsh and wetland areas, with dense vegetative cover. Associated plants include Fremont cottonwood, willows, glasswort, alkali heath, and Baltic rush. Has a very limited range within the Tulare Basin.	FE	Low Potential. Critical habitat exists in a wetland area 2.5 miles north of project site. No suitable habitat is located on the project site.
American badger	*Taxidea taxus*	Occurs in grasslands and scrublands with sparse cover. Excavates burrows for dens and breeding. Forages primarily on burrowing rodents, but also eats small birds, insects, and reptiles. Widely distributed in California and the U.S.	SSC	Moderate Potential. The survey area does not provide optimal habitat, but badgers are known to occur in agricultural and disturbed habitat types. Nearest CNDDB occurrence is more than 10 miles from the project, from 1939.
San Joaquin kit fox	*Vulpes macrotis mutica*	Occurs in valley grassland and foothill woodlands in central and coastal California, including Kings and Fresno counties. Favors low or sparse vegetation for hunting rodents, birds, and insects. Multiple underground dens are used throughout the year. Sometimes uses pipes or culverts as den sites.	FE, ST	Low Potential. Suitable habitat for dens does not occur in the survey area. Nearest CNDDB observations (2) 3.8 miles SE of the project, from 1988 and 1989.
Tulare grasshopper mouse	*Onychomys torridus tularensis*	Occurs in hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Requires an abundant supply of insects.	SSC	Low potential. Marginal and isolated potential habitat exists for this species in the survey area vicinity. Nearest CNDDB occurrence is more than 10 miles from the site, and was recorded in 1931.

Table 3.4.2 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific	Description & Habitat	Status	Occurrence
Amphibians				
Western spadefoot	*Spea hammondii*	Occurs in valley and foothill grasslands and river floodplains, in proximity to aquatic resources, or temporary pools, which are required for breeding. Requires loose sandy or gravelly soils for burrowing. Predators include bullfrogs and crayfish in permanent or disturbed wetlands. Known to occur in Kings and Fresno counties.	SSC	Low Potential. Irrigation ditches represent marginal breeding habitat for this species. Upland habitat is highly disturbed and not likely to be used for aestivation. Nearest CNDDB occurrence approximately 10 miles northwest of the project site, from 1998.
Reptiles				
Western pond turtle	*Actinemys marmorata*	Occurs primarily in permanent and intermittent waters of streams, lakes, reservoirs, ponds, marshes, and irrigation canals, including in brackish water. Found throughout California west of the Sierras. Known to occur in Kings and Fresno counties	SSC	Low Potential. Irrigation ditches represent marginal breeding habitat for this species. Upland habitat is highly disturbed and not likely to be used for aestivation. Nearest CNDDB occurrence approximately 3 miles east of the project, from 1998.
Blunt-nosed leopard lizard	*Gambelia sila*	Occurs in semiarid grasslands, alkali flats, low foothills, and large washes and arroyos, usually on sandy, gravelly, or loamy substrate. Rare or absent in dense vegetation. Depends on existing small rodent burrows for cover. Found between 500 and 1,200 feet in the San Joaquin and adjacent valleys, from Merced to Santa Barbara counties.	FE, SE, FP	Low Potential. Habitat in the survey area is in active agricultural use and does not represent preferred habitat for this species. Nearest CNDDB occurrence to the site is 5.5 miles away, and was observed in 1990.

References: CNDDB 2015, CNPS 2016, USFWS 2016
Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
BCC = US Fish and Wildlife Service bird of conservation concern.

State

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
1B.1 = Rare, threatened, or endangered in California and elsewhere. Extremely endangered in California.
1B.2 = Rare, threatened, or endangered in California and elsewhere. Moderately endangered in California.

Regulatory Setting

Federal

Federal Endangered Species Act. Enacted to protect threatened and endangered (T&E) species and the ecosystems upon which they depend, the ESA (16 U.S. Code [U.S.C.] 1531 et seq.) is administered by the USFWS and the U.S. National Oceanic and Atmospheric Administration. The ESA makes it unlawful to harm a species listed as threatened or endangered or its habitat without a permit. Doing so would be considered a "take," which is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Section 7 of the ESA requires a federal agency to consult with the USFWS when any action it carries out, funds, or authorizes may affect a listed T&E species. For projects that are not carried out, funded, or authorized by a federal agency, Section 10 of the ESA allows the USFWS to issue a permit to the project proponent to take listed T&E species incidental to otherwise legal activity.

Migratory Bird Treaty Act. The MBTA makes it illegal to "pursue, hunt, take, capture, kill, attempt to take, capture, kill, possess, sell, and barter" native migratory bird species without a permit. The MBTA (16 U.S.C. §§ 703–712) was enacted in response to declines of migratory bird populations from uncontrolled commercial uses. The MBTA is a multi-national effort to protect migratory birds and extends to almost all migratory birds. The MBTA covers 836 species, including 58 species that may be legally hunted. The MBTA excludes non-migratory birds (e.g., quail, turkeys, etc.) and non-native species.

Clean Water Act. The Clean Water Act (CWA) (33 U.S.C. 1251 et seq.) regulates discharge of pollutants into the waters of the U.S. with the objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the USACE is authorized to regulate the discharge of fill or dredged material into waters of the U.S., which includes wetlands. Wetlands are defined as lands that are "inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations 328.3; 40 Code of Federal Regulations 230.3). The USACE requires a project proponent to obtain a Section 404 Nationwide or Individual Permit if the project proposes to dredge or fill waters that fall within the jurisdiction of the CWA.

Section 401 of the CWA stipulates that a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. unless the state or tribe where the discharge would originate has granted or waived Section 401 water quality certification. The state or tribe may grant, grant with conditions, deny, or waive certification. In California, the Regional Water Quality Control Boards (RWQCB) administers the Section 401 Water Quality Certification Program. Section 401 certification is required before the USACE may issue a Section 404 permit for discharge of dredged or fill material into waters of the U.S. Many states, including California, rely on Section 401 certification as a primary regulatory tool for protecting wetlands and other aquatic resources.

State

California Endangered Species Act. The CESA (California Fish & Game Code Section 2050, et seq.) establishes legal protection for state-listed threatened and endangered plants and wildlife under the purview of the CDFW. The CDFW also identifies SSC, which are those that may become listed as threatened or endangered due to loss of habitat, limited distributions, and diminishing population sizes or because the species is deemed to have scientific, recreational, or educational value. Any project that proposes to impact a CESA species or California SSC requires consultation with the CDFW. California Fish and Game Code Section 2081 provides a permit process for incidental take of species listed as T&E pursuant to CESA when certain permit conditions are met.

California Fish and Game Code, Sections 1600–1603. This statute regulates activities that would "substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse" that supports fish or wildlife resources. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life, including watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. The CDFW has jurisdiction over any activities regulated under Sections 1600–1603. If fish or wildlife may be substantially adversely affected, a Streambed Alteration Agreement, providing for implementation of measures to protect fish and wildlife resources, may be required by the CDFW for any project within the purview of this statute.

California Fish and Game Code, Sections 2800–2835. The Natural Community Conservation Planning Act of 1991 establishes a program to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW Code Section 2800–2835 outlines regulations for partnering with public and private organizations to provide regional or area wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. This act is broader in scope than the CESA or ESA, and focuses on anticipatory and preventative conservation efforts.

California Fish and Game Code, Sections 3503, 3503.5, 3511, and 5050. The CDFW has jurisdiction over all California wildlife, fish, plants—including threatened and endangered and other special status species—and their habitats. CDFW Code Section 3503 specifies the following general provision for birds: "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings, or otherwise leads to nest abandonment, is considered a take. Disturbance that causes nest abandonment and/or loss of reproductive effort is also considered a take by the CDFW. Sections 3511 and 5050 prohibit the taking and possession of birds and reptiles listed as "fully protected." Any potential impact on avian species requires consultation with the CDFW.

California Environmental Quality Act Guidelines Section 15380. CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. A species may be considered "endangered" when its survival and reproduction in the wild are immediately threatened or "rare" when the species exists in such small numbers or in only a small portion of its range so that it may become endangered if the conditions of its habitat worsen. Non-listed species that may be considered by CEQA include, but are not limited to, plants categorized by the California Native Plant Society as rare or endangered (including those species considered rare and endangered only within California) or any plants considered locally or regionally significant by local governments or agencies. Because CEQA does not limit the discussion of impacts to species listed as threatened or endangered by either the federal or state governments, biological impacts are assessed and mitigation measures are assigned on a case-by-case basis, accounting for the scope of the project, the specifics of the site, and the individual species in question, among other factors.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Act defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." These waters include those considered waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers (USACE), as well as those waters not covered by the USACE. The Porter-Cologne Act established state and Regional Water Quality Control Boards (RWQCBs) as the primary agencies responsible for the coordination of and control over water quality in waters of the state.

Pursuant to Water Code Section 13260, "any person discharging waste, or proposing to discharge waste, within any region that could affect the 'waters of the state'" must file an application for waste discharge requirements with the RWQCB.

Local

Kings County General Plan. The local planning authority for the Java Project is detailed in the provisions of the *2035 Kings County General Plan*, which includes several elements. The Open Space Element addresses the preservation of agricultural lands and specifically calls for an open space buffer that extends for 3 miles from the boundary of NAS Lemoore to be designated as agricultural land (Kings County 2010a). The Resource Conservation Element of the General Plan includes numerous goals, objectives, and policies to help protect and conserve soils, water, plant and wildlife habitat, minerals, and air quality. This element also states that biological screening is required to identify important existing plant and animal habitats on proposed sites, including native oaks, wetlands, and riparian areas. These areas should then be evaluated for mitigation consistent with state (e.g., CEQA) and federal regulations (Kings County CDA 2010b).

3.4.2 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes impacts to biological resources within the proposed Java Project area. Potential impacts were evaluated according to the significance criteria at the start of each analysis section. Criteria were defined based on the checklist items presented in Appendix G of the CEQA Guidelines.

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?

LESS THAN SIGNIFICANT WITH MITIGATION.

Special Status Plants and Sensitive Vegetation Communities

The Java Project site has historically been used for agricultural production; vegetation onsite primarily consists of invasive and ruderal species, such as spreading alkaliweed, Russian thistle (*Salsola tragus*), and black mustard (*Brassica nigra*). APN 024-170-011 consists of invasive and salt-tolerant grassland plant species. Slightly more than 50 percent or 24 of the 47 plant species observed in the survey area during surveys were native species. Special status plants or special status natural communities were not detected onsite (E & E 2015a). Given the low suitability of habitat onsite for special status plants, none are expected to occur. The proposed project would have no impact on sensitive natural communities or special status plant species during construction, operation, or decommissioning; thus, no mitigation measures are proposed.

Special Status Wildlife

Ground-disturbing activities such as clearing and grubbing, rough grading, or excavation pose the greatest threat for direct and indirect impacts on most special status wildlife species and other wildlife in the Project area. This threat is particularly pronounced during the breeding period, since many species are most vulnerable during this time. Potential impacts on special status species are discussed below.

Common and Special Status Birds

Several special status bird species have the potential to occur within or in proximity to the Java Project site, including burrowing owl, peregrine falcon, northern harrier, American white pelican, western snowy plover (interior population), white-faced ibis, and Swainson's hawk. Although American white pelican, western snowy plover, and white-faced ibis were observed within the Westlake Farms ponds, west of the Java Project site, the site itself does not contain suitable nesting or foraging habitat, and these species are not expected to be impacted by construction. Consequently, the impact analysis below focuses on nesting birds and those special status species most likely to nest or forage on the Java Project site itself.

Nesting Birds. Nesting and roosting habitat for raptors and other birds is low quality onsite due to the complete absence of suitable tree and shrub cover. A distribution line with wooden utility poles runs along the western border of the Java Project site, and could provide marginal nesting habitat for birds. The trees along the Kings River corridor, 2 miles from the Java Project site, would provide much higher quality nesting habitat for tree-nesting birds than the Project site itself. Wildlife would tend to seek the superior habitat than nest within the Java Project site boundaries; therefore, there is a low potential for construction activities to permanently impact nesting habitat for tree-nesting birds. Ground-nesting special status species, such as northern harriers and burrowing owl, could nest within or adjacent to the Java Project site, where suitable habitat exists.

Impacts to bird species could include disturbance, injury, or mortality arising from clearing and grading activities and from increased road traffic during operations. Anthropogenic disturbances (e.g., increased noise, human presence, etc.) could disturb birds during their nesting periods, causing an alteration in their behavior or abandonment of their nests. The development of the Java Project site may also result in loss of potential foraging habitat; however, due to past agricultural uses on site, potential foraging habitat on site is generally of moderate and degraded quality. Impacts to nesting birds would be reduced through implementation of mitigation measures such as preconstruction clearance surveys (MM BIO-1) and nesting bird protection measures (MM BIO-2). Pre-construction surveys, completed by a qualified biologist no more than 14 days in advance of construction, would determine whether there were any active nests or special status avian species occurring on the site that should be avoided. If active nests were to be discovered on site during preconstruction surveys, nesting bird measures would be implemented. These measures include the establishment of construction-free buffers and require the applicant to have a biological monitor present when work occurs near active buffers is implemented. The size of the buffers would be based on the species and would be determined by a qualified biologist. Therefore, with implementation of MM BIO-1 and MM BIO-2 impacts would be less than significant with mitigation.

Peregrine Falcon. Peregrine falcons are listed as a fully protected species by the California Fish and Game Code. One individual was observed in the vicinity of the Java Project site during surveys, flying over the Westlake Farms ponds and perching near the edge of the pond (E & E 2015a). Peregrine falcons are known to occur year-round at the Westlake Farms ponds. The ponds are more suitable foraging habitat for this species, which feeds primarily on birds, than the Java Project site. Peregrine falcons typically prefer to nest on cliffs, but will also establish nests on man-made structures or in former raven nests on power poles and in nest boxes (White et al. 2002). Given the lack of suitable nesting habitat, it is unlikely the peregrine falcons would nest on the Java Project site,

and impacts to this species are expected to be less than significant with implementation of MM BIO-1 and MM BIO-2.

Northern Harrier. Northern harriers, which are considered a SSC by CDFW, were observed throughout the survey area, including foraging on the Java Project site. There is similar foraging habitat located directly adjacent to the project site and in the vicinity of the project area, and thus, wouldn't result in a significant impact due to the loss of foraging habitat. This species nests on the ground, mostly in undisturbed areas with dense vegetation such as emergent wetlands, rivers, or grasslands (Shuford and Gardali 2008). Due to the low habitat quality of the Java Project site, it is unlikely that northern harriers would nest onsite; however, if harriers were discovered to be nesting onsite, impacts to this species may be significant without mitigation. MM BIO-1, requiring preconstruction surveys no more than 14 days prior to construction activities, would be implemented to determine whether any northern harrier nests occur on site or in close proximity to the site. If any active nests are discovered during surveys, MM-BIO-2 would ensure these nests are protected through the establishment of construction-free buffers, as determined by a qualified biologist, and biological monitoring of any work occurring near any active buffers to detect any distress. . Therefore, with the implementation of MM BIO-1 and MM BIO-2 impacts would be less than significant with mitigation.

> **MM BIO-1 Preconstruction Clearance Surveys.** A preconstruction clearance survey shall be conducted no more than 14 days in advance of ground-disturbing activities to determine the presence of nesting birds and special status species (i.e., species of special concern, rare, threatened, or endangered species). The surveys shall be conducted by a qualified biologist (i.e., a biologist with experience conducting habitat surveys; familiarity with the CDFW protocols for Swainson's hawks, burrowing owls, and other wildlife; and experience preparing agency-accepted impacts estimates and mitigation plans). These surveys shall be conducted in the project construction area and visual surveys from the site perimeter of adjacent areas. The surveys shall be refreshed if work has ceased for 30 days or more.,
>
> **MM BIO-2 Nesting Bird Protection Measures.** Should bird species, protected under the Migratory Bird Treaty Act, be identified during MM BIO-1 preconstruction surveys, construction activities shall be timed to avoid sensitive seasons (e.g., February 1 – August 31, annually). If construction must occur during the breeding season, spatial buffers shall be created around all bird nests. The size of each buffer shall be determined by a qualified biologist (i.e., a biologist with experience conducting habitat surveys and familiarity with the CDFW protocols for Swainson's hawks, burrowing owls, and other wildlife) based on the species' disturbance tolerance and nesting environment, and shall meet the sufficient buffer standard for active raptor nests based on CDFW recommendations, as applicable.
>
> Buffers shall remain in place until construction is complete or the nest is determined to be inactive. Biological monitors shall be present when construction occurs adjacent to a construction-free buffer, and monitors are authorized to halt construction activities temporarily to prevent take (i.e., direct mortality, reduced recruitment or nest productivity resulting from disturbance avoidance by adult birds).

Burrowing Owl. Burrowing owls typically inhabit vacant burrows of ground squirrels and other small mammals, and several California ground squirrel burrows were observed along the banks of irrigation ditch DR-4 located on the Java Project site during surveys. Although no burrowing owls were observed during initial surveys, burrowing owl sign were observed in one burrow within an irrigation ditch, adjacent to the site during a December 2015 site visit. Subsequent burrowing owl surveys of the site, completed in February and March 2016, did not observe any individuals or secondary sign.

The CNDDB (2015) records include observations of this species within 2 miles of the Java Project site. The existence of suitable habitat on the Java Project site and the existence of burrowing owl secondary sign indicate that this species may be present within these irrigation ditch areas on site.

Although not a strictly nocturnal species, the burrowing owl does hunt at night in summer and could be adversely impacted if nighttime lighting was used during the construction or operation of the Java Project. As stated in the project description (see Chapter 1, "Background Information"), all lighting would be shielded or otherwise modified to prevent emission of light or glare beyond the property line. (Kings County Development Code section 114.A.5.) . Therefore, there would be minimal risk of the nighttime hunting behaviors of burrowing owls being impacted. In addition, vehicles would rarely use the site at nighttime during operations and maintenance. Therefore, the risk of burrowing owl collision with vehicles operating at night would be minimal. Impacts on burrowing owl resulting from the introduction of new sources of permanent night lighting would be less than significant.

Direct impacts on burrowing owls from construction, operation, and decommissioning of the project could result from ground-disturbing activities that may inadvertently collapse or block burrows (CDFG 2012). Indirect impacts on nesting owls could result from increased human activity, noise, visual disturbances, and dust emissions. Potential foraging areas onsite would be removed during construction, but re-population is possible during operation. Impacts on this species would be reduced through implementation of MM BIO-3, which includes pre-construction clearance surveys for burrowing owls. Should these pre-construction surveys identify any active burrows, a construction-free buffer shall be established. If it is determined that the buffer cannot be avoided, a Burrowing Owl Exclusion Plan may be prepared, according to guidance from CDFW. Dust would be minimized during construction by implementing MM AQ-1, which requires the preparation of a Dust Control Plan, including standard practices to reduce fugitive dust on the project, such as watering all active construction sites, stabilizing all disturbed work areas, and reduced speed limits to minimize dust emissions on unpaved surfaces. Therefore, impacts on burrowing owl would be less than significant with mitigation.

MM BIO-3 Burrowing Owl Impact Reduction Measures. A pre-construction survey shall be conducted within 14 days of ground-disturbing activities to determine if burrowing owls currently occupy the site. Survey methodology shall be consistent with the CDFG 2012 Staff Report on Burrowing Owl Mitigation (or more recent if a new Staff Report related to burrowing owl is published prior to construction), and shall consist of a survey of the entire project site and visual surveys (i.e. using binoculars) of suitable habitat on adjacent properties from the site perimeter.

If pre-construction surveys detect the presence of any active burrows, the burrows shall be *avoided*, and a construction-free buffer shall be established around all active burrowing owl nests and burrows, as outlined in the 2012 Staff Report on Burrowing Owl Mitigation. The buffer shall be at least 200 meters during the period of February 1 through October 15, and at least 50 meters during the period of October 16 through March 31. The buffer shall remain in place until the nest fledges, fails, or the burrowing owls no longer occupy the site.

If the potential for direct and indirect impacts cannot be avoided by seasonal avoidance or spatial avoidance using a construction-free buffer, the applicant shall develop a Burrowing Owl Exclusion Plan to describe the process for evicting burrowing owls and collapsing burrows prior to construction, which would be based on CDFW guidance. Burrowing owl eviction and burrow excavation, if required, shall occur outside of nesting season from September 1 to January 31.

Swainson's Hawk.

- *Nesting Habitat.* Swainson's hawks are known to nest in the vicinity of the Java Project site (E & E 2015a). CDFW protects a Swainson's hawk nest for five years after its first use, even if unused by a Swainson's hawk during the intervening time (CDFG 1994). CDFW protocol assumes that any major construction within 0.25 miles of an active Swainson's hawk nest could adversely impact a nest and chicks (CDFG 1994). The nearest known Swainson's hawk nest is 0.2 miles south of the Java Project site, and there are no suitable nest structures (trees or shrubs) onsite. In between this historic nest and the Java Project site is a residence and series of turkey coops. Direct impacts on Swainson's hawk are expected to be less than significant and no mitigation measures are required for impacts to nesting habitat. Indirect impacts to nesting Swainson's hawk could occur if the hawks nest in another nest within 0.25 mile of the Java Project site during construction. Impacts may include disturbance from increased human presence, dust, and construction vehicles; however, impacts on this species would be reduced through implementation of MM BIO-1 and MM BIO-2, requiring preconstruction surveys to identify any active nests and requiring the applicant to establish construction-free buffers for any portions of the Java Project site on which active construction is occurring. The applicant would also implement MM AQ-1, requiring the preparation of a Dust Control Plan, including standard fugitive dust control measures as required by applicable law, such as watering all active construction sites, and stabilizing all disturbed work areas. The applicant also requires reduced speed limits as a standard construction practice, which further minimizes dust emissions on unpaved surfaces. Therefore, impacts would be less than significant with mitigation.

- *Foraging Habitat.* Swainson's hawks will typically forage in disturbed agricultural lands, with preferences for alfalfa fields, low growing row crops, dryland and irrigated pasture, and fallow fields, as these vegetation types are considered to be small mammal and insect habitat (CDFG 1994). The California meadow vole is a primary prey source for the Swainson's hawk, which will also prey on other small mammals, such as California ground squirrels, and large insects, such as grasshoppers.

  The loss of foraging habitat is generally not considered a take pursuant to CESA, but could be considered a significant impact pursuant to CEQA, requiring mitigation. Past and recent California guidelines (CDFG 1994; CEC and CDFG 2010) address the effects of urbanization and recommend an approach to mitigate development-related habitat loss. This approach is based on a project's proximity to nest sites and considers most habitat conversion within 10 miles of an active nest to be an impact on Swainson's hawks. The quality and amount of foraging habitat available for Swainson's hawks must be assessed prior to making a significance determination for any one project.

  Project construction would result in the loss of approximately 96 acres of low- to moderate-quality potential foraging habitat for this species for the life of the Project. While the removal of large amounts of foraging habitat could affect the distribution and abundance of the local and regional Swainson's hawk population, the foraging habitat represented on the Java Project site is a relatively small area in the context of the large areas of similar habitat available both locally and regionally.

  A 2011 regional study investigated foraging habitat for the Swainson's hawk population within 10 miles of the RE Kansas South solar project, a constructed solar photovoltaic project 0.5 miles southwest of the Java Project site (Estep Environmental Consulting 2011). The researchers assessed the presence and viability of active nests over the 2011 breeding season and the amount and quality of suitable foraging habitat needed to support the 19 breeding Swainson's hawk pairs found within the 10-mile survey radius. Due to the close proximity of the RE Kansas South and project sites, the RE Kansas South study data can be used to

analyze the distribution, abundance, and availability of nesting and foraging habitat for Swainson's hawks in the project vicinity and assess the effects of the project on the same regional nesting population.

The 2011 study concluded that there are 208,755 acres of suitable agricultural foraging habitat within the study area, over twice the minimum amount of foraging habitat needed to sustain 19 Swainson's hawk pairs (Estep Environmental Consulting 2011). The estimated surplus foraging habitat available is 118,049. This study also took into account seven additional solar projects with the potential to occur in the study area, totaling 3,399 acres; however, since the study, there have been more proposed and constructed solar PV projects in Kings County, covering 10,420.67 acres. The remaining surplus suitable foraging habitat, taking these most recent projects into account, would be 107,628.33 acres. At present, many of these projects have yet to be constructed. The amount of potential foraging habitat that would be removed as a result of construction of the Java Project site would be approximately 96 acres, or less than .01 percent of the surplus total. Therefore, because the removal of 96 acres of foraging habitat would not affect the distribution or abundance of the Swainson's hawk population, or prevent its future expansion, it would not be considered a significant impact under CEQA, and no mitigation measures are proposed.

Mammals

Fresno and Tipton Kangaroo Rats. Fresno and Tipton kangaroo rats were not observed on the Java Project site during surveys. Suitable habitat for these species was not present onsite; however, two CNDDB occurrences for Tipton kangaroo rats were located 0.25 miles and 0.8 miles north of the Java Project site in alkali scrub habitat (CNDDB 2015). Fresno and Tipton kangaroo rats are also known to occur at NAS Lemoore (Uptain et al. 1999).These species prefer sparsely-vegetated valley grassland, saltbush, and sink scrub habitat (Williams 1986) with friable (crumbly) soils for burrow construction. Because suitable habitat for Fresno and Tipton kangaroo rats does not occur on the Java Project site, these species are not anticipated to occur on-site, and construction, operation, and decommissioning activities are not expected to impact them. Impacts on this species would be less than significant.

San Joaquin Kit Fox. The San Joaquin kit fox is listed as threatened under the CESA and endangered under the ESA. Much of the remaining suitable habitat for San Joaquin kit fox in the San Joaquin Valley is in the narrow band between the boundary of the eastern Central Coast Range and western San Joaquin Valley, west of Interstate Highway 5.

No kit foxes or potential dens were observed on the Java Project site during surveys, and the Project site does not support suitable habitat. The nearest suitable habitat for San Joaquin kit foxes occurs on the NAS Lemoore property, 2.5 miles northwest of the Java Project site, and within the Kings River corridor, approximately 2 miles to the west (E & E 2015a). CNDDB (2015) occurrences for San Joaquin kit foxes were identified 3.8 miles southeast of the Java Project site, and many other historic records exist within 10 miles. Potential for this species to occur on the Java Project site is low due to the lack of suitable, intact habitat. In addition, the presence of coyotes in the area, actively using the project area and adjacent irrigation canals as a travel corridor, further precludes kit fox from using the site. However, this species may pass through the Project site or shelter in culverts and other manmade structures during construction.

Because San Joaquin kit fox could occur within the vicinity of or on the Java Project site, project construction, operational, and decommissioning activities could impact individuals and foraging habitat. San Joaquin kit foxes are generally disturbance-intolerant and have large territorial requirements; they are susceptible to disturbance associated with increased human activity. If San Joaquin kit foxes were present on the Java Project site, they would experience impacts from the construction and use of driveways and other ground-disturbing activity, which may result in short-

term loss of foraging habitat and mortality from vehicular traffic during foraging or dispersal activity (Bjurlin et al. 2005).

As part of the Project design, fencing with 5 to 7 inches of space at the bottom of the fence would allow this species to move in and out of the site. However, further mitigation would be required to ensure that impacts on San Joaquin kit fox would be less than significant. Impacts would be reduced through implementation of MM BIO-1, requiring preconstruction surveys, and MM BIO-4, San Joaquin Kit Fox Protection Measures. These measures include a reduced speed-limit within the Project area, installing ramps in excavations that remain open overnight, covering culverts or any other potential refuge overnight, properly disposing of trash, and providing an environmental training on kit fox and other special status species to all project personnel prior to construction. With the implementation of MM BIO-1 and MM BIO-4, impacts on this species would be less than significant.

MM BIO-4 San Joaquin Kit Fox Protection Measures. Prior to and during any ground-disturbing activities occurring within the Project area, the applicant shall adopt standard measures included in the guidelines in the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*, January 2011 (USFWS 2011), as outlined below:

1. If nighttime construction occurs, then the applicant's 15-mph speed limit shall be reduced to 10-mph. Off-road traffic outside of designated areas shall be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other species of concern during the construction phase, all excavated, steep-walled holes or trenches more than 2-feet deep shall 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 shall be inspected for trapped animals. If at any time a trapped or injured kit fox or other species of concern is discovered, escape ramps or structures shall be installed immediately and USFWS and CDFW shall be contacted.
3. 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 shall be inspected for kit foxes and other species of concern before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox or other species of federal concern is discovered inside a pipe, that section of pipe shall not be moved until 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 special status species has escaped.
4. 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 a construction or Project site.
5. No firearms shall be allowed on the Project site except when in possession of on-duty law enforcement officials.
6. No pets, such as dogs or cats, shall be permitted on the project site to prevent harassment, mortality of kit foxes or other special status species, or destruction of dens.
7. Use of rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes or other species of concern 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 USFWS. If rodent control must be conducted, zinc phosphide should be used.

8. A representative shall be appointed by the applicant who shall be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or other special status wildlife 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 USFWS and CDFW.
9. An employee education program shall be conducted, which shall consist of a brief presentation by persons knowledgeable in kit fox and other special status species biology and legislative protection to explain endangered species concerns to personnel involved in onsite construction. The program shall include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during construction and implementation. The program shall also include information about any other special status wildlife identified onsite during preconstruction surveys. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site.
10. Any personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox or other special status wildlife 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 or other special status wildlife. The CDFW contact for immediate assistance is State Dispatch at (916)445-0045.
11. The Sacramento USFWS Office and CDFW shall be notified in writing within three working days of the accidental death or injury of a San Joaquin kit fox. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.
12. New sightings of kit fox or other special status wildlife 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.

American Badger. The American badger is considered a species of special concern by CDFW. Badger habitat typically consists of relatively open, uncultivated ground, such as grasslands, savannas, and mountain meadows (Williams 1986). Badgers have been known to forage within active or fallow agricultural fields, especially within areas containing populations of California ground squirrels; however, neither badgers nor suitable den sites were observed within the Java Project site. In the event that badgers were to move onto the Project site, the applicant's project design includes "wildlife-friendly" fencing, which would allow badgers to move freely through the site. However, individuals could be injured or killed by construction vehicles, and dens—if any are determined to exist in the future—could be disturbed or collapsed. In addition, Project construction could temporarily reduce the amount of foraging habitat available to badgers in the Project area. With implementation of MM BIO-1, American badger would be identified during preconstruction surveys if any are located onsite in the future. In addition, American badgers are a mammalian species of approximately the same size as the San Joaquin Kit Fox; therefore, MM BIO-4 requirements would protect American badger as well as any other non-protected mammals of approximately the same size that may be present on site via reducing speed limits, preventing entrapment, and other general measures included in MM BIO-4 that are related to reducing impacts on small mammals. Implementation of MM BIO-1 and MM BIO-4 would reduce impacts to less than significant.

Reptiles

Blunt Nosed Leopard Lizard. The blunt nosed leopard lizard is listed as endangered under both the ESA and CESA. The nearest CNDDB occurrence to the site is 5.5 miles away and was observed in 1990. There is no suitable habitat located on the Java Project site as this species is typically found in semiarid grasslands, alkali flats, and large washes and arroyos. While there are alkali flats within one-half mile of the Project area (to the north), it is unlikely this species would occur on the Project site, due to the active agricultural operations on adjacent properties, and SR-41 running along the western boundary of the Java Project site. Therefore, due to the lack of suitable habitat within and adjacent to the Java Project site, blunt nosed leopard lizard is not likely to occur, and there would be no impact on this species.

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, and regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

NO IMPACT. Riparian habitat and other sensitive communities do not exist on the Java Project site. None of the irrigation ditches are vegetated with riparian shrubs or trees and the vegetation that does exist has been scraped frequently. A site visit performed on January 8, 2016, confirmed that the portion of DR-4 which is located within the Project area consists mainly of non-native weedy plant species, including reed canary grass, Russian thistle, tamarisk, and five horn bassia. As the land is used for agriculture, these channels have been drained and filled frequently, rendering the hydroperiods artificial and unpredictable. Construction, operation, and decommissioning of the Project would not impact riparian habitat or other sensitive communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

NO IMPACT. There are no federally protected wetlands located on the Java Project site; therefore, there would be no impact. Discussion of potentially jurisdictional irrigation ditches on and in the vicinity of the Java Project occurs in Section 3.9, "Hydrology and Water Quality."

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?

LESS THAN SIGNIFICANT. Construction, operation, and decommissioning of the Java Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, established native resident or migratory wildlife corridors, or native wildlife nursery sites. There are no migratory fish species on the Project site. Currently, irrigation ditches onsite carry water only sporadically and are generally unvegetated, and, thus, not considered wildlife habitat. The Java Project site is 2 miles from the Kings River, which would not be impacted by construction. The site is surrounded by disturbed land (i.e., agricultural fields and other developed land) and has historically been actively cultivated for agriculture. Onsite habitat is highly degraded for most species. In addition, the applicant's Project design includes "wildlife-friendly" fencing as part of their standard construction design for all of the applicant's projects. Therefore, the Java Project would use fencing with a 5 to 7 inch gap between the ground and bottom of the fence. As a result, the Java Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. Impacts would be less than significant under this criterion.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

NO IMPACT. Construction, operation, and decommissioning of the Java Project would not conflict with any local policies or ordinances protecting biological resources. The local authority for the Java Project is detailed in the provisions of the *2035 Kings County General Plan* (Kings County CDA 2010a, 2010b). Objectives in the Resource Conservation element of the plan address the preservation of environmentally sensitive areas that have existing natural watercourses, drainage basins, sloughs, or other natural water features, including maintaining the quality of existing wetland areas. Other than conserving native oaks and native trees associated with rivers, creeks, and streams, no specific tree preservation ordinances exist for the Java Project site. There are no environmentally sensitive areas, trees, or natural water features located on site. Therefore, activities associated with the operation and maintenance of the project would have no impact on sensitive biological resources protected by local ordinances.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state HCP?

NO IMPACT. Kings County does not currently have an adopted Habitat Conservation Plan as part of its *2035 Kings County General Plan* (Kings County CDA 2010a, 2010b). Therefore, construction and operation of the Project would not conflict with any local, regional, or state level Habitat Conservation Plans.

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3.5 Cultural Resources

Table 3.5-1 Cultural Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 Setting

For the purpose of analysis, the term, "cultural resources" encompasses historical resources; archaeological resources (which may be historic or prehistoric and are a subset of historical resources); Tribal Cultural resources; and paleontological resources. Additional information can be found in Appendix C. Below are definitions of key cultural and paleontological resources terms used in this section:

- *Historical Resources.* Historical resources, as defined by the CEQA, are resources that are listed in, or are determined to be eligible for listing in, the California Register of Historical Resources or a local register, or that are otherwise determined to be historical pursuant to the CEQA Statute or Guidelines (Public Resources Code Section 21084.1 or California Code of Regulations Section 15064.5). A historical resource may be any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in terms of California's architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural records. Typically, historical resources are more than 50 years old.
- *Archaeological Resources.* As stated above, archaeological resources are a subset of the historical resources category. Archaeological sites may be considered historical resources. If not, archaeological resources may be determined to be "unique" as defined by the CEQA Statute (Section 21083.2). A unique archaeological resource is an artifact, object, or site that: (1) contains information (for which there is a demonstrable public interest) needed to answer important scientific research questions; (2) has a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person.
- *Tribal Cultural Resource (TCR).* These types of resources can be a site feature, place, cultural landscape, sacred place, or object, which is of cultural value to a Tribe. It is either listed on or eligible for the CA Historic Register or a local historic register. The lead agency also can choose to treat a resource as a TCR. Tribes may choose not to share information regarding these resources with the public, either in accordance with state and/or federal laws (AEP 2016).

- *Paleontological Resources.* For the purposes of this section, "paleontological resources" refers to the fossilized plant and animal remains of prehistoric species. They are valued for the information they yield about the history of the earth and its past ecological settings. Paleontological resources represent a limited, non-renewable, impact-sensitive, scientific, and educational resource. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic formations and localities in which the fossils are collected.

Historical Context

The Java Project site is located adjacent to the former shoreline of the Tulare Lake in the San Joaquin Valley, an area occupied by humans for more than 10,000 years (ASM 2015). Ethnographically, the Project area was occupied by the Tachi Yokut Tribe for which the Santa Rosa Rancheria was created in 1934 (ASM 2015).

Numerous cultural resource sites have been identified in Kings County, in the areas of Stratford and south and west of Lemoore (Kings County CDA 2010). These sites include the original site of the Town of Lemoore and a Yokut Indian Cemetery (Kings County CDA 2010). In addition, four sites within Kings County are listed on the National Register of Historic Places (NRHP), including a Taoist Temple, County Courthouse, Carnegie Library, and the Witt archaeological site. Three additional sites have been designated as California Historical Landmarks, including the Kingston Town Site, north of Hardwick; the El Adobe de los Robles Rancho, west of Lemoore; and the Mussel Slough Tragedy site, south of Hardwick (Kings County CDA 2010).

The Java Project site can be characterized as a dry open valley bottom. Prior to conversion to agriculture and channelization, the Project area would have been a low lying, water rich area, occasionally inundated by floodwaters. Historical use of the area as agricultural has altered the vegetative communities once present; it now consists of agricultural fields bordered by paved roads. The Project area has been plowed, but was fallow at the time cultural resource surveys were conducted in 2015 (ASM 2015).

Paleontological Setting

The Java Project site is located in the southern portion of the Great Valley Geomorphic Province of California. The Great Valley is an alluvial plain, in which sediments have been deposited almost continuously since the Jurassic Era (CGS 2002). Arnold (1909) identified an important fossiliferous zone in the Tulare foundation called the Anodonta zone, which contains an abundance of freshwater mussels. This zone lies at the base of the Tulare foundation, thousands of feet below the Project area. The Project would be constructed on ground heavily disturbed to a depth of several feet by agricultural activities and alluvium overlying the Tulare Formation.

Section 3.6, "Geology and Soils," discusses the geological setting of the region.

Methods and Findings

Cultural Resources Records Search and Literature Review

On July 28, 2015, a records search was conducted on behalf of the Applicant at the California State University, Bakersfield, Southern San Joaquin Valley Archaeological Information Center (AIC), to determine if (i) historical or archaeological sites had previously been recorded within the study area; (ii) if the project area had been systematically surveyed by archaeologists prior to the initial study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive (ASM 2015).

The AIC results indicated that two previous archaeological surveys had been completed that covered portions, but not all of the Project site. Three additional archaeological surveys had been conducted within 0.5 miles of the Project site. Previous surveys did not identify cultural resources within the Project site; however, five isolated artifacts were identified and recorded southeast of the Project site within 0.5 miles (ASM 2015).

Native American Consultation

A records search of the Native American Heritage Commission's Sacred Land Files was conducted on behalf of the Applicant. The Sacred Land Files search did not indicate the presence of Tribal cultural resources on the Project site. Discussions with the Santa Rosa Rancheria Cultural and Historic Preservation Department of the Tachi Yokut Tribe have indicated that this region has the potential to contain archaeologically sensitive material.

Cultural Resources Survey

An intensive Phase I cultural resources survey/Class III inventory for the Project site was conducted in July 2015, and an additional portion of the Project site was surveyed in December 2015. Pedestrian transects at 15 meter intervals were performed on APN 024-170-010 and APN 024-170-011. The survey included, as applicable, identification of surface artifacts and/or archaeological deposits, tabulation and recording of surface diagnostic artifacts, site sketch mapping, preliminary evaluation of site integrity and site recording.

No sites were identified during the survey, although two isolated surface specimens were identified, recorded, and collected; one find consisted of a human cranial fragment (ASM 2015). Upon discovery of the fragment, the specimen was mapped, collected, and turned-over to the Santa Rosa Rancheria Tachi-Yokut Tribe for repatriation. The Kings County Coroner and the Native American Heritage Commission were notified on the day of the discovery (ASM 2015).

Historic architectural resources were not evaluated as part of the surveys. As noted in Section 3.10.1, few man-made structures are present, as no inhabited dwellings are present on the Java Project site; other nearby structures are utilitarian in nature, consisting of irrigation channels, utility poles, and other solar facilities.

3.5.2 Environmental Impacts and Mitigation Measures

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

LESS THAN SIGNIFICANT WITH MITIGATION. Although no historical resources were identified in the July and December 2015 surveys, ground-disturbing activities associated with the construction phase of the Java Project have the potential to impact unknown historical resources. The AIC records search results and survey conducted at the Project site did not indicate any significant cultural resources (i.e., historical resources or unique archaeological resources) at the Project site; cultural resources have been recorded within 0.5 miles of the Project site, and there remains some potential for unknown historical resources to be discovered at the site.

Agricultural activities have disturbed the immediate ground surface in the Project area; however, intact historical resources may be discovered below the agricultural layer in land subject to ground-disturbing activities.

In order to account for unanticipated discoveries and the potential to impact previously undocumented or unknown resources, the following mitigations measures shall be implemented as necessary:

MM CR-1: Archaeological Monitoring. Prior to any ground disturbance, a surface inspection of the Java Project site shall be conducted by a qualified archaeologist. The qualified archaeologist shall monitor the site during grading activities. The archaeologist shall provide pre-construction briefings to supervisory personnel and any excavation contractor, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.

MM CR-2: Stop Work in the Event of Unanticipated Discoveries. In the event that cultural resources, paleontological resources, or unique geologic features are discovered during construction or decommissioning, operations shall stop within 100 feet of the find, and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall determine the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with §15064.5 of the CEQA Guidelines. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Any previously undiscovered resources found during construction within the Project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist.

The Kings County Community Development Agency, along with other relevant agency or Tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County Community Development Agency.

MM CR-3: Native American Monitoring. Prior to any ground disturbance, the applicant shall offer interested Tribes 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.

MM CR- 4: Disposition of Cultural Resources. Upon coordination with the Kings County Community Development Agency, any archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded long-term preservation. Documentation for the work shall be provided in accordance with applicable cultural resource laws and guidelines.

With the implementation of MM CR-1 through MM CR-4, impacts under this criterion would be less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

LESS THAN SIGNIFICANT WITH MITIGATION. Ground-disturbing activities associated with the construction phase of the project have the potential to impact unknown archaeological resources. The AIC records search results and July and December 2015 surveys conducted at the Project site indicate that there are no archaeological resources at the site. As previously noted, cultural resources have been recorded within 0.5 miles of the Project site, and there remains some potential for unknown archeological resources to be discovered at the site.

Agricultural activities have disturbed the immediate ground surface of the Project area; however, intact archaeological resources may be discovered below the agricultural layer in land subject to grading or other ground-disturbing activities.

Implementation of MM CR-1 through MM CR-4, described above, would reduce potential impacts on archaeological resources because work would cease in the immediate vicinity, if cultural resources were discovered during construction, and work would not continue in the vicinity of the discovery until a qualified archaeologist evaluated the find and recommended appropriate action in consultation with the Project and agency authorities.

With the implementation of these measures, archaeological resources would not be adversely impacted by Project construction, particularly those that are unknown at this time. Therefore, impacts under this criterion would be less than significant.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

LESS THAN SIGNIFICANT. Ground disturbance for this Project is limited, as noted in Section 1.8.4. According to the Cultural Resource Survey for the adjacent Henrietta Solar Project (Michael Brandman Associates 2011), the region is not likely to contain buried paleontological resources at depths that would be impacted during Project construction. Because paleontological resources are not likely to occur at the depths needed for construction or decommissioning, impacts on such resources will be less than significant. Even though impacts are determined to be less than significant, to further reduce any impact, in the unlikely event that a resource is identified during construction or decommissioning, the archaeological monitor shall assess the find and determine appropriate actions, which may include contacting a professional paleontologist or professional geologist (see MM CR-1 and CR-2).

d. Would the project disturb any human remains, including those interred outside of formal cemeteries?

LESS THAN SIGNIFICANT WITH MITIGATION. A human cranial fragment was identified during the July 2015 survey indicating that there is potential for the Project to damage or destroy human remains during ground-disturbing activities. As noted, the specimen was mapped, collected, and turned-over to the Santa Rosa Rancheria Tachi-Yokut Tribe for repatriation. The Kings County Coroner and the Native American Heritage Commission were notified on the day of the discovery (ASM 2015). These actions were conducted in accordance with existing regulations intended to protect the disposition of human remains.

In the event of an accidental discovery or recognition of any human remains, including those interred outside of formal cemeteries, California State Health and Safety Code § 7050.5 dictates that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to CEQA regulations and Public Resources Code § 5097.98. If human remains are found on the Project site, the applicant shall adhere to these legal requirements, per MM CR-5 below. Mandatory compliance with the legal requirements set forth in MM CR-5 and implementation of MM CR-1to MM CR-4 would ensure that potential impacts associated with human remains during the construction phase would be less than significant.

> **MM CR-5: Treatment of Human Remains.** The applicant shall follow current legal requirements at the time of discovery for the treatment of human remains. Currently, pursuant to Section 5097.98 of the California Public Resources Code (PRC) and Section 7050.5(e) of the California State Health and Safety Code (HSC) Section and PRC Section 5097.98, if human remains or bone remains of unknown origin are 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 contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD), who shall have at least 48 hours from notification of the find to comment.

The applicant 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 include appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD and the other parties do not agree on the reburial method, the Project shall follow PRC 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."

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.

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3.6 Geology and Soils

Table 3.6-1 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

3.6.1 Setting

Environmental Setting

The Java Project would be located on approximately 96 acres of agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The Java Project site is in the southern portion of California's Great Valley Geomorphic Province.

The Great Valley, or Central Valley, is a large, asymmetrical, northwest-trending structural trough formed between the Coast Ranges to the west and the Sierra Nevada to the east. The Great Valley is filled with up to 6 vertical miles of sediment that include marine, alluvial, and lacustrine (lake) deposits (Kings County 2009). Two of these sedimentary units, the Tulare and San Joaquin Formations, outcrop along the western margin of the Great Valley to form the Kettleman Hills. The Project site surface is composed of alluvial sediment eroded from the Kettleman Hills and Diablo Range. The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific tectonic plates. Seismic activity in Kings County is well documented and discussed in detail below.

Faulting and Seismicity

Over the past 200 years, Kings County has not experienced any damaging earthquakes equal to or greater than a Mercalli Index (M) 6.0. The largest and most forceful (M 7.9) earthquake that affected Kings County was the 1857 Fort Tejon earthquake, the epicenter of which was in the community of Parkfield, in Monterey County, approximately 7 miles west of the Kings County boundary. The largest and most forceful (M 7.3) earthquake in southern California since the Fort Tejon earthquake was the 1952 Kern County earthquake, which occurred on the White Wolf Fault; the epicenter was near Bakersfield, approximately 38 miles southeast of the Kings County boundary. The quake produced ground shaking that was felt over 200 miles away. The most recent earthquakes to impact Kings County occurred during the 1980s: the 1982 New Idria earthquake (M 5.4); the 1983 Coalinga earthquake (M 6.5), with an epicenter approximately 22 miles from the western border of the Project site; and the 1985 Kettleman Hills earthquake (M 6.1), with an epicenter 13 miles southwest of the Project site, just north of the City of Avenal. All three earthquakes produced low-level ground shaking and were of low local magnitude in Kings County (Kings County CDA 2010a).

The greatest potential for geologic hazard in Kings County is posed by the San Andreas Fault, approximately 42 miles southwest of the Project site. The Nunez Fault is about 37 miles west of the Project site. The Owens Valley Fault group on the east side of the Sierra Nevada and the White Wolf Fault to the south of Kings County pose fewer hazards. The primary seismic activity-caused hazard in the Project area is ground shaking, which is the most widespread and damaging effect of an earthquake. There is no potential for extensive surface rupture because no major fault systems exist in Kings County (Kings County CDA 2010a).

The Java Project site would be subject to seismic hazards because of its proximity to active faults, fault systems, and fault complexes. The U.S. Geological Survey (USGS) produces seismic hazard maps of peak horizontal acceleration (i.e., ground shaking). Peak acceleration is the highest ground acceleration recorded by a particular station during an earthquake. Seismic hazard maps prepared by the USGS are the basis for the International Building Code seismic design maps used by engineers to incorporate appropriate design features based on seismic risk. At the Project site there is a 2 percent probability of exceeding a peak ground acceleration of 20 to 30 percent gravity and a 10 percent probability of exceeding a peak ground acceleration of 10 to 20 percent gravity in 50 years (USGS 2014). This seismic hazard rating is associated with moderate potential damage and very strong perceived shaking (Wald et al. 2003).

Figure HS-2 of the *2035 Kings County General Plan* classifies the soils on the Java Project site as V1 (Kings County CDA 2010a). V1 soils have a relatively high potential for amplified shaking that could affect low to medium-rise structures; however, “the distance to either of the fault systems that are expected sources of the shaking is sufficiently great that the effect should be minimal” (Kings County CDA 2010a).

There are no areas within Kings County in which a particular land use should be prohibited because of seismic conditions (Kings County CDA 2010a).

Soils

The soils in the Project area have been mapped by the U.S. Department of Agriculture Natural Resources Conservation Service, and soils data are available from the Soil Survey Geographic database (NRCS 2015). The soil map units that occur on the Java Project site are the Armona loam, Grangeville sandy loam, Homeland fine sandy loam, Lakeside loam, and Lemoore sandy loam, which is the predominant unit for a majority of the site (NRCS 2015).

These soils are developed on flood plains, basin floors, basin rims, and alluvial fans and are somewhat poorly drained to poorly drained. Soil runoff potential is low to negligible and erosion hazard is slight. The shrink-swell potential of soils in the Project area is considered to be moderate based on clay content, which ranges up to 45 percent in some horizons (NRCS 1980, 1999, 2002, 2003).

Wind erosion is prevalent on the west side of the Central Valley where the Project site is located. The loss of topsoil as dust blows into the air contributes to crop loss, damage to public health (including the dissemination of spores causing Valley Fever), automobile accidents, and damage to public facilities. Most wind erosion occurs between March and June (Kings County CDA 2010b). Soil can be protected from wind erosion by maintaining adequate growing vegetation, depositing crop residues to cover the soil, and maintaining adequate soil moisture from irrigation and tillage to keep the soil stable.

Regulatory Setting

State

Installation of the solar field, PCS, and substation at the Java Project site would be performed in accordance with the requirements of the California Building Code (CBC) to withstand the design basis ground motion, which is defined as earthquake ground motion (lateral dynamic displacement) with a 2 percent chance of being exceeded in 50 years.

The Alquist-Priolo Act regulates development near active faults to mitigate the hazard of surface rupture. Faults identified as being located within an Alquist-Priolo Earthquake Fault Zone are typically active faults. The Java Project site is not in an Alquist-Priolo Fault Zone, and there are no active faults within 18 miles of the Project site (Jennings and Bryant 2010).

Local

The *2035 Kings County General Plan* states that “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. Dams, schools, and hospitals are more stringently regulated by state and federal agencies for protection against such hazards. It should be noted that the purpose of the earthquake provisions of the CBC is to prevent loss of life, not to prevent structural damage” (p. HS-8).

In addition, the Resource Conservation Element of the *2035 Kings County General Plan* (2010a) includes the following:

- RC Objective C2.2: Ensure that land use decisions are compatible with the control of soil erosion and the maintenance of soil quality.
- RC Policy C.2.2: Continue to require the application of construction related erosion control measures, including Stormwater Pollution Protection Plans (SWPPP) for all new construction.

3.6.2 Environmental Impacts and Mitigation Measures

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

NO IMPACT. There are no Alquist-Priolo Earthquake Fault Zones within Kings County, and the Java Project site does not lie within an Alquist-Priolo Earthquake Fault Zone (CDC 2010). Nor is there any other evidence of a known fault in Kings County. Therefore, the project would have no potential to expose people or structures to substantial adverse effects resulting from the rupture of a known earthquake fault. There would be no impact under this criterion.

ii) Strong seismic ground shaking?

LESS THAN SIGNIFICANT. The Java Project site is in a seismically active area, as described above, and a moderate or large earthquake on the San Andreas Fault could cause ground shaking at the Java Project site; however, most Project components would be relatively low to the ground, and there would be few people onsite during operations. Therefore, the Project would have little potential to expose people or structures to substantial adverse effects due to strong seismic ground shaking.

In addition, according to the Health and Safety Element of the *2035 Kings County General Plan*, "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." Therefore, compliance with existing CBC seismic design standards, as enforced through the Kings County Building Division, would ensure that impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

LESS THAN SIGNIFICANT. According to Figure HS-2 in the *2035 Kings County General Plan* (Kings County CDA 2010a), the soils on the Java Project site are classified as V1 (Kings County CDA 2010a). Soils classified as VI have a relatively high potential for amplified shaking that could affect low to medium-rise structures; however, "the distance to either of the fault systems that are expected sources of the shaking is sufficiently great that the effect should be minimal" (Kings County CDA 2010a).

In addition, there would be few people onsite during operations; therefore, few people would be exposed to hazards due to seismic-related ground failure in the event that such hazards were to occur. For example, if soils were to become liquefied during a seismic event and the Java Project's relatively low-lying structures were to collapse, the 15-foot-high structures would be low enough to the ground that they would do little damage compared to a large structure, such as an office building. Therefore, the Project would be unlikely to cause substantial adverse effects in the event of seismic-related ground failure or liquefaction. The affects would be minimal and therefore less than significant.

iv) Landslides?

NO IMPACT. A landslide is the movement of soil, rock, or other earth material downhill in response to gravity. In accordance with the USGS National Landslide Hazards Program overview map of landslide incidence and susceptibility, the Project area is of low landslide susceptibility and there are no significant slopes onsite (Godt 2001). According to Figure HS-3 in the *2035 Kings County General Plan*, the Java Project site is in an area of low landslide incidence (Kings County CDA 2010a). Therefore, there would be no impact under this criterion.

b. Would the project result in substantial soil erosion or the loss of topsoil?

LESS THAN SIGNIFICANT WITH MITIGATION. Table HS-1 of the *2035 Kings County General Plan* describes the Probability of Soil Erosion in Kings County as Unlikely, the Spatial Extent as Limited, the Potential Magnitude as Negligible, and the Significance as Low (Kings County CDA 2010a). Therefore, the Project would not result in substantial soil erosion or loss of topsoil, and impacts would be less than significant. In addition, because construction of the Java Project requires 8.5 acres of grading for the inverter pad, substation, driveways, and other improvements (8.85% of the site), the applicant would be required by existing law to prepare a SWPPP, which would be submitted to the RWQCB prior to construction along with a Notice of Intent. As described in MM HYD-1, the SWPPP would be prepared by a licensed engineer based on the Project's final engineering design and would include best management practices to minimize soil erosion. Therefore, although impacts under this criterion would be less than significant without a SWPPP, impacts would be further reduced with implementation of MM HYD-1.

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?

LESS THAN SIGNIFICANT. The Java Project site would be located on near-surface materials that include alluvial silt, sand, and clay soils overlying the Tulare and San Joaquin Formations. The Java Project site is primarily located on flat land. Excavation, grading, and fill operations associated with construction activities at the Java Project site would be relatively minor.

On- or Off-site Landsliding. As discussed above, there would be no impact related to landsliding because the site is flat and contains no significant slopes as described above.

Lateral Spreading. Lateral spreading of the ground surface can occur within liquefiable beds during seismic events. Lateral spreading generally requires an abrupt change in slope (e.g., a nearby steep hillside, deeply eroded stream bank, etc.). Other factors, such as distance from the epicenter, magnitude of the seismic event, and thickness and depth of liquefiable layers, also affect the amount of lateral spreading. The liquefaction risk at the Java Project site is minimal due to the distance to the nearest active faults. In addition, there are no abrupt changes in slope, and therefore, there would be no potential for landslides. Therefore, the potential for lateral spreading of the surface during seismic events would be negligible.

Liquefaction. As discussed above, risks associated with liquefaction would be minimal due to the distance to the nearest active faults.

Collapse. No mines, karst topography, or other subsurface features are known to exist beneath the Java Project site or adjacent properties (Kings County CDA 2010b). The threat of subsurface ground collapse is considered minimal across the Java Project site.

Subsidence. Although subsidence has increased in the San Joaquin Valley in recent decades due to excessive groundwater extraction, particularly in recent years due to ongoing drought conditions, the Java Project would not itself be a cause of significant subsidence because water requirements for the Project are relatively low compared to water quantities required for agricultural, urban, and certain industrial uses.

Therefore, impacts under this criterion would be less than significant.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

LESS THAN SIGNIFICANT. Soils in the area of the Java Project are expected to consist of loam and sandy loam. Figure HS-4 of the *2035 Kings County General Plan* "Health and Safety Element" identifies the Project site as not having expansive soils; therefore, potential impacts would be less than significant under this criterion.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

NO IMPACT. The Java Project would have no operations staff stationed at the Java Project site. Operations workers who visit the site periodically for inspection, maintenance, repair, and panel washing duties would utilize portable chemical toilets that would be serviced by a contractor as needed. Therefore, the Project would not connect to a sanitary sewer system or utilize on-site septic tanks and leachfields for disposal of wastewater. Thus, although the Project site is located in an area with a perched water table, and engineering is required for any new septic system that if installed (see Figure B of Kings County Ordinance No. 567.4); no such system is planned or required for the Java Project. Therefore, the Project would result in no impact in terms of capability of the site soils to adequately support septic systems.

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3.7 Greenhouse Gas Emissions

Table 3.7-1 Greenhouse Gas Emissions Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

3.7.1 Setting

Environmental Setting

Major changes in temperature, rainfall, snow, or wind patterns lasting for decades or longer are referred to as climate change (EPA 2010). Climate change may be affected by a number of factors, including natural cycles (e.g., changes in the sun's intensity); natural processes within the climate system (e.g., changes in ocean circulation); and human activities that change the composition of the atmosphere (e.g., the release of carbon dioxide [CO_2] through burning fossil fuels) or land surface (e.g., deforestation, urbanization, etc.) (EPA 2010). Although the global climate has changed many times throughout Earth's history, the rapid warming measured in the past several decades cannot be accounted for by natural processes alone.

Greenhouse gases (GHGs) are gases that are known to trap heat in the atmosphere and remain in the atmosphere for decades or longer. Due to these characteristics, GHGs are thought to have an effect on climate change (CARB 2009). The Intergovernmental Panel on Climate Change found a correlation between increased atmospheric levels of greenhouse gases, such as CO_2, and climate change, as measured in terms of rising global temperatures. The main GHGs contributing to climate change are CO_2, methane (CH_4), nitrous oxide, sulfur hexafluoride, perfluorocarbons, and hydrofluorocarbons.

While certain effects of climate change could be beneficial, particularly in the short-term, present and future effects of climate change pose considerable risks to human health and welfare, as well as the environment. Current evidence of climate change extends well beyond increases in global surface temperatures and includes changing precipitation patterns, melting glaciers around the world, increasing ocean temperatures, and rising sea levels (EPA 2010), resulting in potential impacts on biodiversity and habitat, impacts on agriculture and forestry, and human health and social impacts (CNRA 2009).

Global warming potential is a measure of how much a given amount of a GHG is estimated to contribute to climate change compared to CO_2. For a given GHG, the CO_2 equivalency (CO_2e) is a quantity that describes the amount of CO_2 that would have the same global warming potential. For example, the global warming potential of CH_4 over 100 years is 25, meaning that the emission of 1 metric ton of CH_4 would be equivalent to the emission of 25 metric tons of CO_2.

Regulatory Setting

Regulations and policy addressing the assessment and mitigation of climate change have been established at the federal, state, and local levels.

Federal

The EPA has issued regulatory actions under the Clean Air Act and other statutory authorities to address issues related to climate change.

National Climate Action Plan. In June of 2013, the President enacted a national Climate Action Plan (Plan) (EOP 2013) that consisted of a wide variety of executive actions and had three pillars; 1) cut carbon in America, 2) prepare the U.S. for impacts of climate change, and 3) lead international efforts to combat global climate change and prepare for its impacts. The Plan outlines 75 goals within these three main pillars. A follow-up report was published in June 2015 and details the progress that has been made in advancing the goals set forth in the 2013 Climate Action Plan (EOP 2015).

Endangerment Finding and Cause or Contribute Finding for Greenhouse Gas. On December 7, 2009, the EPA Administrator signed two separate findings regarding GHGs under Section 202(a) of the Clean Air Act. The Endangerment Finding states that the current and projected concentrations of the six key GHGs (i.e., CO_2, CH_4, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten public health and welfare. The Cause or Contribute Finding states that the combined emissions of GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution. These findings were a foundation for the EPA's regulation of vehicle GHG emissions. The EPA and the U.S. Department of Transportation's National Highway Traffic and Safety Administration have finalized GHG emission reduction regulations for light-duty vehicles and heavy-duty engines (EPA 2016).

Mandatory Reporting of Greenhouse Gases Rule. In October 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which requires large sources and suppliers in the United States to report GHG emissions. Suppliers of fossil fuels and industrial GHGs, manufacturers of vehicles and engines outside the light-duty sector, and facilities that emit 25,000 metric tons or more of GHGs per year are also required to submit annual reports to the EPA. The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change.

Final GHG Tailoring Rule. Established on May 13, 2010, this rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of Clean Air Act permitting programs to limit which facilities are required to obtain Prevention of Significant Deterioration and Title V permits.

State

Executive Order S-3-05. Issued in 2005, this Executive Order established statewide GHG emission reduction targets of 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. This EO recognized the state's susceptibility to climate change impacts.

Assembly Bill 32 and Assembly Bill 32 Scoping Plan. In 2006, the Global Warming Solutions Act, Assembly Bill (AB) 32, was enacted, requiring a reduction of the state's GHG emissions to 1990 levels by 2020, consistent with EO S-3-05. AB 32 requires that CARB prepare and approve a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020. The scoping plan includes a range of GHG emission reduction actions, including direct regulations, alternative compliance mechanisms,

monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. The initial scoping plan was approved at the CARB hearing on December 12, 2008 . CARB approved the First Update to the Scoping Plan in May 2014. Measures in the Scoping Plan are being adopted over time as regulations (CARB 2014 and CARB 2016).

Climate Change Scoping Plan GHG reduction measures that are applicable to the Java Project include the Low Carbon Fuel Standard, regional transportation-related GHG targets, light-duty vehicle GHG standards, medium/heavy-duty vehicle GHG Standards, vehicle efficiency measures, goods movement, energy efficiency, high GWP gases, and recycling and waste.

Executive Order B-30-15. EO B-30-15 was signed by Governor Jerry Brown Jr. on April 29, 2015. This EO established an interim statewide GHG reduction target of 40 percent below 1990 levels by 2030, which is necessary to guide regulatory policy and investments in California in the mid-term and put California on the most cost-effective path for long-term emission reductions. Under this EO, all state agencies with jurisdiction over sources of GHG emissions will need to continue to develop and implement emissions reduction programs to reach the state's 2050 target and attain a level of emissions necessary to avoid dangerous climate change. According to the Governor's Office, this EO is in line with the scientifically established levels needed in the United States to limit global warming to below 2 degrees Celsius—the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels (Office of the Governor 2015).

Assembly Bill 1493 – Pavley. In 2002, the California legislature adopted regulations to reduce GHG emissions in the transportation sector, the state's largest source of GHG emissions. In September 2004, pursuant to AB 1493, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. In September 2009, CARB adopted amendments to the Pavley regulations to reduce GHG from 2009 to 2016. CARB, EPA, and the National Highway Traffic and Safety Administration have coordinated efforts to develop fuel economy and GHG standards for model 2017-2025 vehicles. The GHG standards are incorporated into the "Low Emission Vehicle" Regulations.

Executive Order S-01-07 – Low Carbon Fuel Standard. In January 2007, the governor set a new standard for transportation fuels sold in California, which sets a reduction of 2.5 percent in the carbon intensity of transportation fuels by 2015 and a reduction of at least 10 percent by 2020.

Senate Bill 375 – Sustainable Communities Strategy. In 2008, Senate Bill 375 was adopted to achieve the GHG reduction targets established in the Climate Change Scoping Plan for the transportation sector through local land use decision that affect travel behavior. In relevant part, Senate Bill 375 requires the Air Resources Board to set regional targets for GHG emission reductions from passenger vehicles and light duty trucks. On September 23, 2010, CARB accepted the Southern California Association of Governments—which includes Riverside County—determination that its adopted Sustainable Communities Strategy would meet or exceed the regional GHG emissions reduction goals of 8 percent by 2020 and 13 percent by 2015 (SCAG 2016).

Other Mobile Source Reduction Requirements. Several other State provisions address the GHG emissions reduction targets set by CARB for mobile sources. Measures applicable to the proposed projects include the following:

- *Advanced Clean Cars Program.* A set of regulations that would apply to new vehicles with model years between 2017 and 2025, with a goal of GHG emission reduction of 34 percent in 2025.

- *Heavy-Duty Truck GHG Regulations.* Regulations that apply to new heavy duty tractors and trailers to reduce GHG emissions.
- *On-Road Heavy Duty Diesel Vehicle Regulations.* Requires diesel trucks and buses to be upgraded to reduce GHG emissions under a phased implementation that would have almost all buses and trucks with 2010 engines by January 1, 2023.

Local

The Java Project is planned for an area within the San Joaquin Valley. In December 2009, the SJVAPCD adopted the following guidance documents applicable to the project:

- *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD 2009), and
- *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies 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, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;

ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and

iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29%, compared to Business as Usual (BAU).

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air districts' GHG thresholds may be used to determine impacts. Although the Project is not located within the South Coast Air Quality Management District (SCAQMD), SCAQMD currently has a GHG threshold of 10,000 metric tons of CO_2e per year for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. This threshold is often used by agencies, such as the California Public Utilities Commission, to evaluate GHG impacts in areas that do not have specific thresholds (CPUC 2015). Therefore, because this threshold has been established by the SCAQMD in an effort to control GHG emissions in the largest metropolitan area in the State of California, this threshold is considered a conservative approach for evaluating the significance of GHG emissions in a more rural area, such as Kings County.

3.7.2 Environmental Impacts and Mitigation Measures

The effects of climate change on the Project area are difficult to predict with accuracy but could result in intensely hot summers; electricity shortages; increased fire risk; socioeconomic impacts; and impacts on agriculture, public health, ecologically sensitive habitat, plant and wildlife resources, and water resources.

Project construction is expected to last approximately 8 months. Construction would be divided into phases (described in Chapter 1, "Background Information"). Some phases could be performed concurrently. During project construction, GHGs would be emitted from the combustion of gasoline and

diesel in on-road vehicles (i.e., worker vehicles, crew work trucks, and delivery trucks) and off-road equipment (i.e., bulldozers, graders, and backhoes). GHG emissions were estimated for each construction phase using the CalEEMod (v2013.2.2) emissions model (recommended in SJVAPCD's most recent Guidance for Assessing and Mitigating Air Quality Impacts) and published emission factors. The total GHG emissions estimate for the duration of project construction is 379 metric tons of CO_2e. The construction emission calculations are detailed in Appendix A.

Following construction and during the normal long-term operation of the Java Project, GHG emissions would be emitted from on- and off-road vehicles and equipment associated with periodic system inspection and maintenance. Maintenance activities would include solar panel washing, which would entail one or two water trucks driving through the Project area. Emissions would also be generated from workers' commute vehicles and, as needed, delivery trucks. Annual GHG emissions associated with long-term project operation and maintenance (O&M) are estimated at 28 metric tons of CO_2e per year. The operational emission calculations are detailed in Appendix A.

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

LESS THAN SIGNIFICANT. Neither CEQA nor the SJVAPCD establish significance thresholds for GHG emissions. Therefore, the lead agency has opted to use the SCAQMD GHG emissions thresholds as described above in Section 3.7.1 under "Local."

Project construction activities would generate an estimated 379 metric tons of CO_2e GHG emissions from the combustion of diesel and gasoline in vehicles and equipment. Amortized for a typical 30-year project lifetime, these construction GHG emissions are estimated at approximately 13 metric tons of CO_2e per year. The Project is also expected to generate an estimated 28 metric tons of CO_2e per year over the long term due to routine O&M activities. Thus, the total annualized GHG emissions from construction, operation, and maintenance of the Java Project are estimated at 41 metric tons of CO_2e per year. The total annualized GHG emissions from the Project would not exceed the SCAQMD GHG Threshold of 10,000 metric tons of CO_2 per year. Even if GHG emissions due to decommissioning were added to these totals, assuming that decommissioning activities would be similar to construction, the totals would still fall well below the threshold. Also, assuming that decommissioning GHG totals would be similar to construction totals does not take into account any future GHG reductions due to improved equipment technology. Therefore, actual decommissioning GHG emissions are likely to be lower than during construction.

The Project would also comply with policies and measures in the AB 32 Scoping Plan that have been implemented as regulations. Also, regardless of the low level of emissions, the applicant nonetheless implements standard measures to reduce tailpipe emissions from diesel-powered construction equipment and incorporates this requirement into its standard construction contracts for all projects, as described in Chapter 1, "Background Information."

According to SJVAPCD (2015), "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." The Project's GHG emissions would not exceed quantitative thresholds developed by neighboring SCAQMD to comply with AB 32 and would not conflict with the California Climate Change Scoping Plan statewide reduction target. Therefore, the estimated levels of GHG emissions would not have a significant impact on the environment, and the impact associated with GHG emissions would be less than significant.

b. Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

NO IMPACT. There are no local plans, policies, or regulations contained in the *2035 Kings County General Plan*, *Kings County Development Code*, or other local guidelines or regulations that directly address GHG emissions. Therefore, the determination of significance under this criterion would be related to whether the Project would hinder or delay implementation of the statewide GHG reduction targets set forth in AB 32.

The Climate Change Scoping Plan adopted by the California Air Resources Board outlines the strategies for achieving the AB 32 emissions reduction targets. One of the key strategies is the Renewables Portfolio Standard (RPS), which requires all electric utilities in California to include a minimum of 33 percent renewable generation sources in their overall energy mix by 2020. As a solar PV generating facility, the Java Project would 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 would help facilitate the retirement of existing older fossil-fueled generation plants, thereby avoiding or offsetting those sources of GHG emissions. Therefore, the Project 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.

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3.8 Hazards and Hazardous Materials

Table 3.8-1 Hazards and Hazardous Materials Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

3.8.1 Setting

Environmental Setting

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, approximately 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41 between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, “Background Information”).

The Java Project consists of the construction and operation of a 15-megawatt solar generation facility with solar panels composed of semiconductor materials. The Java Project site is on flat agricultural land at an elevation ranging from 191 to 202 feet above mean sea level. Land uses within the area that have the potential to create safety hazards and/or may contain hazardous materials include agricultural uses. Land

uses in Kings County within 5 to 10 miles of the Java Project site potentially associated with hazardous materials include neighboring agricultural and industrial operations, including a former oil storage facility, legal and illegal dumpsites, and the Lemoore City Public Works sewage treatment plant.

Hazardous Materials and Solar Photovoltaic Uses

Hazardous materials are classified as those including solids, liquids, or gaseous materials that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, could pose a threat to human health or the environment. Hazardous materials are not directly used during solar PV system installation and operations; however, such materials may be used during manufacturing and in equipment used for assembly and installation. Other materials that may result in a public health concern that would be used during solar PV installation and operation include fuels, lubricants, and herbicides. These materials must be handled and used in accordance with federal and state regulations.

Crystalline Silicon

Crystalline silicon is a semiconductor used in solar cells to convert solar energy into electricity. Silicon-based solar PV cell production involves many of the same materials and hazards as those used in the microelectronics industry, with the highest toxicity levels occurring during production and disposal. Though crystalline silicon material poses no significant hazard during project construction or operation, the applicant uses best management practices for recycling, or reusing, or disposing of solar PV cells complies with all applicable local, state, and federal regulations.

Routine Use of Other Materials During Construction and Operation

Hazardous Materials. Relatively small quantities of hazardous materials would be used during project construction and operation. Materials of concern include gasoline, diesel fuel, inverter coolant, ethylene glycol, hydraulic oil, transformer oil, sulfur hexafluoride, gases (such as acetylene, argon, oxygen and propane) and cleaning chemicals. Fuels, lubricants, and other materials would be stored on the site, and the applicant would maintain a Hazardous Materials Business Plan, which would include an inventory of any hazardous materials used during the construction of the Project or in the operation and maintenance building. Inverter coolant would be routinely and remotely monitored, and onsite transformers would be filled with mineral-based oil at the manufacturing company and subsequently checked in four-year intervals for integrity. Rodent and weed control substances may be used and stored on site for fire abatement, noxious weed abatement, and pest control. The applicant would use U.S. Environmental Protection Agency (EPA) registered and approved substances.

Hazardous Waste. Hazardous and non-hazardous wastes that are likely to be generated from construction and operation of the Java Project include used inverter coolant, waste motor oils, used mineral-based transformer oil, waste hydraulic fluids, and waste solvents and adhesives. Inverter coolant would be replaced approximately every 15 years, and transformer oil would be replaced at regular intervals. All oils, lubricants, and spent filters would be collected and removed for recycling at the time of replacement. All waste handling, storage, transportation, and disposal would comply with state and federal regulations.

Hazardous Materials Sites in the Vicinity of the SGF Site

A review of local, state, and federal environmental databases using Department of Toxic Substances Control's (DTSC's) Envirostor and the California State Water Resources Control Board's GeoTracker, was conducted to identify any sites known to be associated with releases of hazardous materials or wastes within the project area (DTSC 2015a). This research, which covered a 1-mile radius area centered on the Java Project site, confirmed that the project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and ASTM Standard

Practice for Environmental Site Assessments. Additionally, no sites were listed within 0.5 miles of the Java Project site area. Two maps were generated that demonstrated that no contaminated sites were located within the Project area (DTSC 2015b). The following federal and state databases were reviewed:

Federal: National Priority List; Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS); CERCLIS No Further Remedial Action Planned; Resource Conservation and Recovery Act (RCRA) Information System; RCRA Corrective Action Sites and Non-Corrective Action Sites treatment, storage and disposal facilities; RCRA Generator List and RCRA-Non-Generator List; Facility Index System, U.S. Brownfields; Emergency Response Notification System; and others.

State of California: Historical Cal-Sites; Bond Expenditure Plan; Cortese List; California SWRCY (list of recycling facilities); California landfill facilities; California Leaking Underground Storage Tank Facility Inventory Database; Spills, Leaks, Investigations, and Cleanups; Underground Storage Tank (UST) List and Historical UST (historical UST sites); Aboveground Storage Tank; Statewide Environmental Evaluation and Planning System UST listing; Voluntary Cleanup Properties; RESPONSE (confirmed release sites); HAZNET (hazardous waste disposal sites); EMI (toxics and criteria pollutant emissions data); ENVIROSTOR (known or suspected contamination sites); and others.

"Orphan" Listings: Review of available databases included review of the "unmappable" (also referred as "orphan") site listing, including address information and facility names, as available.

The search confirmed that the Java Project would be approximately 3.3 miles southeast of the NAS Lemoore sanitary landfill and separate solid waste disposal site. A former illegal dumping site included in the "orphan" listing is approximately 5 miles from the Project site. A voluntary cleanup and removal of 2,336 tons of contaminated soil, refuse, and debris was completed at this site in 1996.

A review of state database oil and gas well information revealed the presence of one abandoned well site in the vicinity, approximately 0.2 miles southwest, of the Project site.

Naval Air Station Lemoore

Airports. The Project site is within proximity of two private use airstrips. The closest airstrip is located a half-mile southeast of the Project site and is operated by Blair Air and Ground for periodic crop dusting operations. The next closest airstrip is the Jones Farm Airport approximately 2.5 miles away from the site.

The nearest NAS Lemoore runway is located over 8 miles northwest of the Project site, across SR-198. The Navy's largest master jet air station, NAS Lemoore encompasses nearly 30,000 acres, 11,020 acres of which are under an air easement contract within which two offset, parallel, 13,500-foot runways operate (NAS 2015). The facility includes a military airport and other critical facilities, such as medical and training facilities. A "green belt" area adjacent to and surrounding NAS Lemoore was established by Kings County to control urban development and prevent future problems associated with jet aircraft noise and population increases (Kings 2015).

Additional information about airports near the Java Project site and in Kings County is included in Section 3.15, "Transportation/Traffic."

Regulatory Setting

Federal

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S. Code [U.S.C.] §9601 et seq.). Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or the Superfund Act), as amended, and pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan, the EPA is responsible for responding to the release or threat of release of oil, petroleum products, hazardous substances, or pollutants and contaminants that pose an actual or potential threat to human health or welfare or to the environment.

Occupational Safety and Health Administration. The Occupational Safety and Health Administration (OSHA) administers Occupational Safety and Health Standards (29 Code of Federal Regulations Sections 1910 and 1926), which (1) provide regulations for safety in the workplace, (2) regulate construction safety, and (3) require a Hazard Communication Plan to identify and inventory all hazardous materials for which material safety data sheets are maintained. OSHA's standards also require employee training in the safe handling of these materials. The Java Project would be subject to OSHA requirements during construction, operation, and maintenance.

Occupational Safety and Health Administration Electrical Safety Standards. Title 29 Code of Federal Regulations, Part 1910.302, Subpart S, Design Safety Standards for Electrical Systems, and Part 1910.331, Electrical Safety-Related Work Practices Standard (1990), provides a description of concepts and principles associated with electrical hazards and basic electrical safety for individuals. OSHA's electrical standards for construction recommend following general industry electrical standards whenever possible for hazards that are not addressed by industry-specific standards. The standards address concerns related to electrical hazards and exposures to such dangers as electrical shock, electrocution, burns, fires, and explosions. OSHA's electrical standards help minimize these potential hazards by specifying safety aspects in the design and use of electrical equipment and systems.

National Fire Protection Association 780, National Electrical Code. The National Electrical Code (NEC) addresses electrical hazards through guidance related to installation of any electrical power system, including PV systems. With respect to electrical hazards, a thorough knowledge of the NEC is required to install any electrical power system, including PV systems. The NEC covers the installation of electrical conductors, equipment, and raceways, signaling and communications conductors, and equipment and optical fiber cables for public and private premises. The activities of the Java Project site may require special permission from the Kings County authority that has jurisdiction for enforcement of this code. Article 690 of the NEC specifically covers installation and operational requirements for solar PV systems.

Resource Conservation and Recovery Act of 1976 (42 U.S.C. §6901 et seq.). The RCRA grants authority to the EPA to control hazardous waste from start to finish. This authority covers the production, transportation, treatment, storage and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid waste. The 1986 amendments to RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Java Project site will contain a few items that are considered potentially hazardous. Small quantities of hazardous materials will be used and stored on-site during O&M of the Java Project.

RCRA also regulates solar PV product end-of-life disposal and is based on the California Hazardous Waste Control Law (HWCL). If solar panels are determined to be hazardous waste by the regulatory authority, the requirements of RCRA and HWCL would regulate their handling, recycling, reuse, storage, treatment, and disposal. However, the applicant's solar panels do not exceed the EPA's Toxicity Characteristic Leaching Procedure standards and are therefore not considered hazardous waste.

Toxic Substances Control Act of 1976 (15 U.S.C. §2601 et seq.). The Toxic Substance Control Act enacted by Congress in 1976 authorized the EPA to secure information on all new and existing chemical substances and to control any of these substances determined to cause an unreasonable risk to public health or the environment.

State

Hazardous Waste Control Law, Title 26. The HWCL-created state hazardous waste management program is similar to, but more stringent than, RCRA program requirements. The HWCL is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the requirements pertaining to the following aspects of proper management of hazardous waste:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

The California EPA (CalEPA) DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under RCRA and the HWCL. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. These regulations list more than 800 materials that may be hazardous and establish criteria for the identification, packaging, and disposal of such waste. Under the HWCA and Title 26, the generator of hazardous waste must complete a manifest, which accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Department of Toxic Substances Control. DTSC has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the HWCL. Enforcement is delegated to local jurisdictions that enter into agreements with the DTSC.

California's Secretary of Environmental Protection established a unified hazardous waste and hazardous materials management regulatory program as required by Health and Safety Code Chapter 6.11. The unified program consolidates, coordinates, and makes consistent portions of the following six existing programs:

- Hazardous Waste Generations and Hazardous Waste On-site Treatment;
- Underground Storage Tanks;
- Hazardous Material Release Response Plans and Inventories;

- California Accidental Release Prevention Program;
- Aboveground Storage Tanks (spill control and countermeasure plan only); and
- Uniform Fire Code Hazardous Material Management Plans and Inventories.

The statute requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements within the county. Most Certified Unified Program Agencies have been established as a function of a local environmental health or fire department and most counties use the California Environmental Reporting System. In Kings County, this program is managed by the Environmental Health Services Department.

California Code of Regulations, Title 22, Chapter 11. Title 22 of the CCR, Division 4.5, Chapter 11, contains regulations for the identification and classification of hazardous wastes. The CCR defines a waste as hazardous if it has any of the following characteristics: ignitability, corrosivity, reactivity, and/or toxicity. Article 3 provides detailed definitions of each characteristic. Articles 4 and 5 provide lists of RCRA hazardous wastes, non-RCRA hazardous wastes, hazardous wastes from specific sources, extremely hazardous wastes, hazardous wastes of concern, and special wastes.

California Emergency Services Act. Under the Emergency Services Act, California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous material or hazardous waste is an important segment of the plan administered by the California Emergency Management Agency (CEMA). CEMA coordinates the responses of various agencies, including CalEPA, Caltrans, the California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices.

CEMA coordinates overall state agency response to major disasters in support of local government (Division 1, Title 2, CCR Chapter 7, the California Emergency Services Act; Hazardous Materials Release Response Plans and Inventory Law of 1985). CEMA is responsible for ensuring the state's readiness to respond to and recover from natural, man-made, and war-caused emergencies, as well as assisting local governments in their emergency preparedness, response, and recovery efforts. During major emergencies, CEMA may call upon all state agencies to help provide support.

Hazardous Materials Release Response Plans and Inventory Law of 1985. Pursuant to the Hazardous Materials Release Response Plans and Inventory Law of 1985, local agencies are required to develop "area plans" for response to releases of hazardous materials and wastes. Kings County maintains a Hazardous Material Incident Response Plan to coordinate emergency response agencies for incidents and requires the submittal of business plans by persons who handle hazardous materials. The California Hazardous Materials Incident Reporting System is a post-incident reporting system to collect data on the accidental release of hazardous materials. Information on accidental releases of hazardous materials is reported to and maintained by CEMA.

California Occupational Safety and Health Regulations, Title 8. Worker safety on construction projects is the responsibility of the California Department of Industrial Relations, Occupational Safety and Health Administration (Cal/OSHA, California Code of Regulations, Title 8). Cal/OSHA establishes requirements for safe working conditions and safety-related reporting in the state and for electrical safety (Electrical Safety Orders).

Solar Photovoltaic Installation Guide. In 2008, the Office of the State Fire Marshall published a draft copy of the Solar Photovoltaic Installation Guide in partnership with interested local fire officials, building officials, and industry representatives. This guide was developed to increase public safety for all structures equipped with solar PV systems. This guidance was developed for PV systems associated with residential and commercial buildings, but some of the information about marking, access, pathways, smoke ventilation, location of DC conductors, and ground mounting is applicable to larger solar PV generation facilities (CAL FIRE 2008).

Photovoltaic Product Disposal and End-of-life Regulation. Regulation of solar PV products' end-of-life disposal is based on the federal RCRA and the California HWCL. The solar panels proposed for the Java Solar Project do not meet the EPA's definition of hazardous waste; however, the applicant adheres to strict internal guidelines related to the handling, recycling, reuse, storage, treatment, and disposal of solar panels and adheres to all regulations related to the disposal of solid waste. . Silicon-based panels typically last in excess of 35 years.

Local

Kings County General Plan, Health and Safety Element. The *2035 Kings County General Plan*, Health and Safety Element, contains a comprehensive set of safety goals, objectives, and corresponding policies that are the framework for the determination of acceptable risk, response to disasters, and the development of policies for mitigating the effects of natural or human-made incidents. Natural hazards, including geological, flood, temperature, fire, and wind hazards, are discussed in Section II of the Health and Safety Element. Policies described in the Health and Safety Element are intended to minimize personal injury and property damage while addressing issues related to community health and safety.

Health and Safety Element objectives and policies that are relevant to the Java Project include measures addressing the regulation of new development to reduce the risk of damage and injury due to fire (Kings County CDA 2010a). According to the Health and Safety Element, the Kings County Fire Department can, "conduct assessment of proposed industrial and business facilities to assure compliance with safety and design capacity requirements" in the mitigation of fire risks.

***Kings County Fire* Department.** The Kings County Fire Department requires certain elements for the Java Project area, including installation of a Knox box (containing keys for the project facility) to permit fire department entry to the Project site; prevention of accumulation of combustible vegetation that would create a fire hazard; and installation of an approved security fence to prevent public access and protect the public from hazards associated with the electrical energy.

Emergency Operations Plans. The Kings County Office of Emergency Management (OEM) is responsible for coordinating multi-agency responses to complex, large-scale emergencies and disasters within Kings County. It is the responsibility of OEM to develop and maintain the Emergency Operations Plan, which serves as a guideline for who will do what, when, by which authority, and with what resources before, during, and immediately after an emergency. OEM is the conduit for information and resource coordination among the State of California and the local governments of Kings County (the Kings Operational Area), as defined in California's Standardized Emergency Management System. The Kings Operational Area includes the cities of Avenal, Corcoran, Hanford and Lemoore, as well as the political subdivisions of the county. OEM adopted the Kings County Multi-Jurisdictional Multi –Hazard Mitigation Plan in October 2007. The goal of the plan is to reduce impacts of natural disasters to human life, property, and the environment (OEM 2007).

Fire Safety. The Project area is classified by the California Department of Forestry and Fire Protection (CAL FIRE) as a Local Responsibility Area in which local jurisdictions, rather than the

state, are responsible for emergency fire response. The Java Project site is also adjacent to a Federal Responsibility Area near NAS Lemoore. The Project site is largely classified as Unzoned by CAL FIRE, meaning fire hazard severity has not been determined for this area (CAL FIRE 2007). The Kings County General Plan Safety Element shows there is little to no threat for fire hazards where the Project site is located. The General Plan also identifies areas of dry vegetation in rural areas of the county as high fire hazard risks. The areas surrounding the Project site are classified as a Local Responsibility Area Moderate and Unzoned.

The Java Project's internal road system would include 20-foot-wide roads around the perimeter of the facility and within the solar field, constructed in accordance with the requirements of the Kings County Fire Department. The roads would be maintained to provide a fire buffer and facilitate onsite circulation for emergency vehicles. Internal roadways, 15 to 20 feet in width and unsurfaced, would extend throughout the Project site. The Project site access driveway would be sufficiently wide to allow emergency vehicles to pass construction or operational traffic.

Local fire response and fire protection to the Java Project site would be provided by Kings County Fire Station 10 at 20200 Main Street in the community of Stratford. Station 10 is 3.5 miles from the Java Project site and response time from Station 10 is approximately 4 to 5 minutes (Kings County Fire 2015). The Java Project would be served from the north by Lemoore Station 7 at 1285 South Lemoore Avenue in the City of Lemoore. Station 7 is 5 miles from the Java Project site and response time from Station 7 is approximately 7-8 minutes (Kings County Fire 2015). Fire emergency response to the Project site would include vehicles with independent water supplies, since fire hydrants are neither present at the Project site nor installed as part of the Project.

3.8.2 Environmental Impacts and Mitigation Measures

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

LESS THAN SIGNIFICANT WITH MITIGATION. Hazardous and other materials would be used during construction, operation, and decommissioning of the Java Project. Materials would include gasoline, diesel fuel, inverter coolant, vegetable-based transformer oil, sulfur hexafluoride (SF_6) in the circuit breakers in the Project substation, and cleaning chemicals. Hazardous and non-hazardous wastes that may be generated include waste motor oils, used transformers and transformer oil, waste hydraulic fluids, and waste solvents and adhesives. Any use, transport, or disposal of hazardous materials would be conducted in accordance with all applicable local, state, and federal regulations.

During construction and decommissioning, accidental releases could occur, such as minor spills and leaks from vehicles or equipment; however, substances would generally not be stored on site in sufficient quantities to result in significant impacts to soil, groundwater, or surface water. As a standard construction practice, the applicant requires that all construction workers be instructed in emergency procedures, fire prevention, the location and proper use of emergency equipment (e.g., spill kits, fire extinguishers, etc.), and methods of protecting themselves in the event of an emergency as described in Chapter 1. Nonetheless, in order to ensure that impacts due to the use, transport, and disposal of hazardous materials would be less than significant, the applicant would prepare and implement a Hazardous Materials Business Plan (HMBP) as outlined in MM HAZ-1 and Stormwater Pollution Prevention Plan (SWPPP) as outlined in MM HYD-1.

MM HAZ-1 requires that the applicant prepare an HMBP that describes which hazardous materials would be stored on site and requires that they be stored in containers specifically designed for those materials. In addition, MM HAZ-1 requires that all materials be stored and used in accordance with manufacturer instructions and directions, and existing laws. The HMBP would also contain measures for reducing the potential of accidental releases as well as measures to be implemented should an accidental release occur.

MM HYD-1 requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) during construction and decommissioning. The SWPPP would be prepared based on final engineering design by a licensed engineer in accordance with existing law.

Implementation of MM HAZ-1 and MM HYD-1 would reduce impacts during construction and decommissioning to less than significant by ensuring that all substances are appropriately handled and that accidental releases are minimized and contained.

During operation, large quantities of hazardous substances would not be routinely transported or used with the exception of the occasional transport, use, and disposal of vegetable-based transformer oil during major maintenance activities. Other small quantities of various fuels, cleaning chemicals, and inverter coolant would also be transported and used, and SF_6 would be used in circuit breakers in the Project substation. However, implementation of MM HAZ-1 would reduce any impacts by requiring that substances be appropriately handled and that accidental releases be minimized and contained. Therefore, impacts during operation would be less than significant.

> **MM HAZ-1: Protection from Hazardous Materials**. In order to protect the public from potential release of hazardous materials, the project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of the Kings County Public Health Department Environmental Services Division and 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 shall 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 shall 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 shall 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 each phase of the Java Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.

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?

LESS THAN SIGNIFICANT WITH MITIGATION. Refer to the discussion above, under Section 3.8.2a. The Java Project does not involve the use of large quantities of hazardous materials with the exception of vegetable-based transformer oil. Other small quantities of various fuels, cleaning chemicals, and inverter coolant would also be transported and used, and SF_6 would be used in circuit breakers in the Project substation. As a standard construction practice, the applicant requires that all construction workers be instructed in emergency procedures, fire prevention, the location and proper use of emergency equipment (e.g., spill kits, fire extinguishers, etc.), and methods of protecting themselves in the event of an emergency as described in Chapter 1. However, MM HAZ-1 would also be required to reduce the potential for accidental releases and ensure that all hazardous substances are appropriately handled. With the implementation of MM HAZ-1, impacts would be 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?

NO IMPACT. The school that is located closest to the Project is Central Elementary School, which is located 1.67 miles northeast of the Java Project site. The Java Project has no potential to emit hazardous emissions or release hazardous or acutely hazardous materials, substances, or waste in the vicinity of an existing or proposed school; therefore, no impact would occur.

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?

NO IMPACT. As discussed above, a review of state and federal databases confirmed that the Java Project would not be located on lands that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; therefore, the Project would not impact the public or the environment by being sited on a listed hazardous material site.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?

NO IMPACT. The Project site is neither within 2 miles of a public airport or public use airport nor within an airport influence area, as designated by the Kings County Airport Land Use Compatibility Plan, discussed in Section 3.10, "Land Use and Planning." The Project site is, however, approximately 2.5 miles from Jones Farm Airport and approximately half a mile from the Blair airfield, both private use airstrips.

The Project site falls within the Military Influence Area (MIA) covering most of the northwest portion of Kings County (Kings County CDA 2010b). The MIA was established to address land use compatibility around NAS Lemoore, which straddles both Kings and Fresno counties. Kings County, Fresno County, and the City of Lemoore have coordinated with NAS Lemoore to address land use compatibility and develop measures for review and approval of development near NAS Lemoore and within the MIA.

The NAS Lemoore Joint Land Use Study (JLUS) and Air Installations Compatible Use Zones (AICUZ) report indicates that the Java Project site would not be within an Accident Potential Zone. Though the Project site would be within Noise Contour Zone 1 (CNEL > 60), utilities are listed as a compatible use in this zone (NAS Lemoore 2011). The Java Project is not located within the AX Green Belt area but would nonetheless be consistent with the goals and objectives of the Green Belt area surrounding NAS Lemoore.

No potential impact would be expected due to the Project site's proximity to NAS Lemoore, including potential effects from glint and glare on pilots at NAS Lemoore. The PV modules would be dark in color and would be highly absorptive. A study conducted by Power Engineers for Solargen Energy's Panoche Valley Solar Farm Project concluded that glint and glare from PV panels would not result in a hazard to air traffic. While the study concluded that glint and glare may be visible to private aircraft depending on altitude, relationship to the project area, and panel position, examples of large-scale solar development at Denver International Airport and the Oakland Federal Express International Airport Hub were cited to demonstrate that solar PV projects do not create hazards to air traffic (Power Engineers 2010).

Additionally, PV solar facilities similar to the Java Project have been installed and are operational without adversely affecting flight operations at a number of Air Force Bases (AFBs), including Luke AFB, Davis–Monthan AFB, Nellis AFB, Los Angeles AFB, and Hill AFB. These solar facilities include the operational Recurrent Energy (RE) Kent South Solar Project 2 miles south of NAS Lemoore, and the RE Orion and Mustang Projects under construction just south of NAS Lemoore. Consequently, the Java Project would not result in a safety hazard for people residing or working, including pilots at NAS Lemoore, in the Project area as a result of being in the vicinity of an airport land use plan or an area of active air traffic. No impact would occur under this criterion.

For further discussion of the Java Project's compatibility with NAS Lemoore, refer to Section 3.10, "Land Use and Planning."

f. For a project in the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

NO IMPACT. The Project site is approximately half a mile from the Blair airstrip and 2.5 miles from the Jones Farm Airport, both private airstrips. The Blair runway is oriented in a north-south direction closer to 19th Avenue; therefore, the Java Project would not impact their flight operations. Pursuant to the study conducted by Power Engineers (2010) for Solargen Energy's Panoche Valley Solar Farm Project, which concluded that glint and glare impacts would not result to a hazard to air traffic, as described above, the Java Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impact would occur under this criterion.

g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT WITH MITIGATION. The Java Project would not interfere with the implementation of or physically interfere with an adopted emergency response or evacuation plan. 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. According to Figure HS-20 of the Health and Safety Element of the *2035 Kings County General Plan*, in the Project vicinity the primary routes would include SR-198 and SR-41 and the secondary routes would consist of 18th Avenue and Kansas Avenue. These nearby highways and County roads provide several alternative escape routes with relatively low ambient traffic volumes. The Project 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.

The applicant has proposed to adhere to standard traffic controls as outlined in Chapter 1, "Background Information." However, during the construction phase, slow moving vehicles or delivery of large pieces of equipment or components could result in temporary traffic slowdowns. Such conditions would be infrequent and would be managed by appropriate traffic controls in accordance with the California Vehicle Code, and through consultation with Kings County as outlined in MM TR-1 (see Section 3.16, "Traffic and Transportation"). The standard traffic measures outlined in MM TR-1 would include ensuring that construction traffic would not block emergency equipment routes and minimizing work on and use of local roads. This impact would, therefore, be less than significant.

h. Would the project 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?

LESS THAN SIGNIFICANT. The Java Project site is 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 (CDF) shows the project site as "unzoned" for fire hazard (CALFIRE 2007). The nearest areas zoned on the FHSZ map are located in the foothills along Interstate 5 to the southwest of the project site, which are zoned "Moderate Severity Fire Hazard" (CALFIRE 2007). Therefore, the risk of wildland fire at the project would be less than significant.

Although the Project site is considered to have relatively low potential for wildfires, and impacts under this criterion are therefore considered less than significant, the applicant has nonetheless included fire protection measures in the design of the project to protect components against fire damage, as described in Chapter 1, "Background Information." Therefore, impacts would be further reduced. Fire safety and prevention are further discussed in Section 3.14, "Public Services."

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3.9 Hydrology and Water Quality

Table 3.9-1 Hydrology and Water Quality Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f. Otherwise substantially degrade water quality?	☐	☒	☐	☐
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

3.9.1 Setting

Environmental Setting

The Java Project would be located on approximately 96 acres of agricultural land in an unincorporated area of Kings County, California, approximately 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, “Background Information”). The landscape is mainly level farmland. The Java Project site is flat with an average slope of 0.03 percent.

Precipitation

The climate in Kings County is semi-arid to arid. Average precipitation from 2012 to 2014 was 4.06 inches. Historic annual precipitation ranges from 6 to 11 inches (NOAA 2015; DWR 2015).

Hydrologic System

The Java Project site is located in the Tulare Lake Hydrologic Region, which includes all of the San Joaquin Valley south of the San Joaquin River and covers 10.9 million acres (DWR 2003). This portion of the San Joaquin Valley drains through the Kings, Kaweah, Tule, and Kern rivers. The Department of Water Resources (DWR) has subdivided the Tulare Lake Hydrologic Region into 12 groundwater basins. One of which, the San Joaquin Basin, is further divided into seven subbasins. Of these seven subbasins, the Java Project site is located within the Tulare Lake Subbasin area.

Groundwater

The Tulare Lake Subbasin has a surface area of 524,000 acres (DWR 2006). The aquifer comprises younger and older alluvial sediments, flood-basin deposits, lacustrine and marsh deposits, and continental deposits. The locations of these deposits have made the subbasin essentially closed off from water flow from other basins. This basin includes younger alluvium, which is very permeable and above the water table. The basin also includes older alluvium, which is moderately to highly permeable and yields large quantities of water to wells. Lacustrine and marsh deposits include the Corcoran Clay, which underlies the subbasin at depths ranging from about 300 to 900 feet below ground surface. Continental deposits yield low to high quantities of water to wells. Total groundwater storage capacity is estimated at 17 million acre-feet to a depth of 300 feet and 82 million acre-feet to the base of fresh groundwater. Annual urban and agricultural extractions from the subbasin are estimated at 24,000 and 648,000 acre-feet, respectively. In 2006, DWR estimated that annual natural recharge of the subbasin was 89,200 acre-feet per year. Although artificial recharge and subsurface inflow were unknown, annual applied water recharge totals were estimated to be about 195,000 acre-feet. Groundwater wells in the Tulare Lake Subbasin had yields ranging from 20 to 2,000 gallons per minute, with an average range for municipal/irrigation production of 300 to 1,000 gallons per minute. The estimated average specific yield for the subbasin was 8.5 percent (DWR 2006).

In 1980, five of the seven subbasins within the San Joaquin Valley groundwater system, including Tulare Lake, were identified as being in overdraft (DWR 2015). The DWR California Statewide Groundwater Elevation Monitoring Program recently ranked the Tulare Lake Subbasin as high-priority for groundwater monitoring and identified subsidence, overdraft, and water quality degradation as problems within this subbasin (DWR 2014). Although still in overdraft, between 2005 and 2010, 53% of water usage in the Tulare Lake Hydrologic Region was met by groundwater (DWR 2015). Agricultural uses in the subbasin accounted for an average of 5,550 acre-feet of groundwater use between 2005 and 2010, which amounted to 51% of water used for agricultural purposes. Additional water needs were met by local projects, Central Valley Project, and State Water Project (DWR 2015).

According to DWR, groundwater quality throughout the subbasin is generally suitable for most urban and agricultural uses (DWR 2003); however, high salinity levels and the presence of other contaminants, including total dissolved solids have been identified as potential long-term problems for the basin (CVRWQCB 2004). In addition, in 2013, the Kings County Board of Supervisors recognized the limitations of groundwater supplies near the Java Project area (Kings County CDA 2013).

Surface Waters

The Java Project site lies within the Kings River watershed, which covers portions of Fresno, Tulare, and Kings Counties. With headwaters in the Sierra Nevada Mountains, major rivers of the watershed include

Kings, Kaweah, Tule, and Kern rivers, which flow west and southwest, emptying into the Tulare Lake region (DWR 2015). The Kings River is approximately 2 miles west of the Project site.

Runoff from the Java Project site is received by onsite and offsite drainage systems, including two irrigation ditches crossing the site (DR-1 and DR-4) (E&E 2016). DR-4 is a partially vegetated irrigation ditch with an earthen bank running north-south through the western third of APN 024-170-010 and along the edge of APN 024-170-011; DR-1 is an unvegetated ditch running diagonally east-west through APN 024-170-011. An additional vegetated ditch (DR-3) runs along the southern border of APN 024-170-010 on an adjacent property.

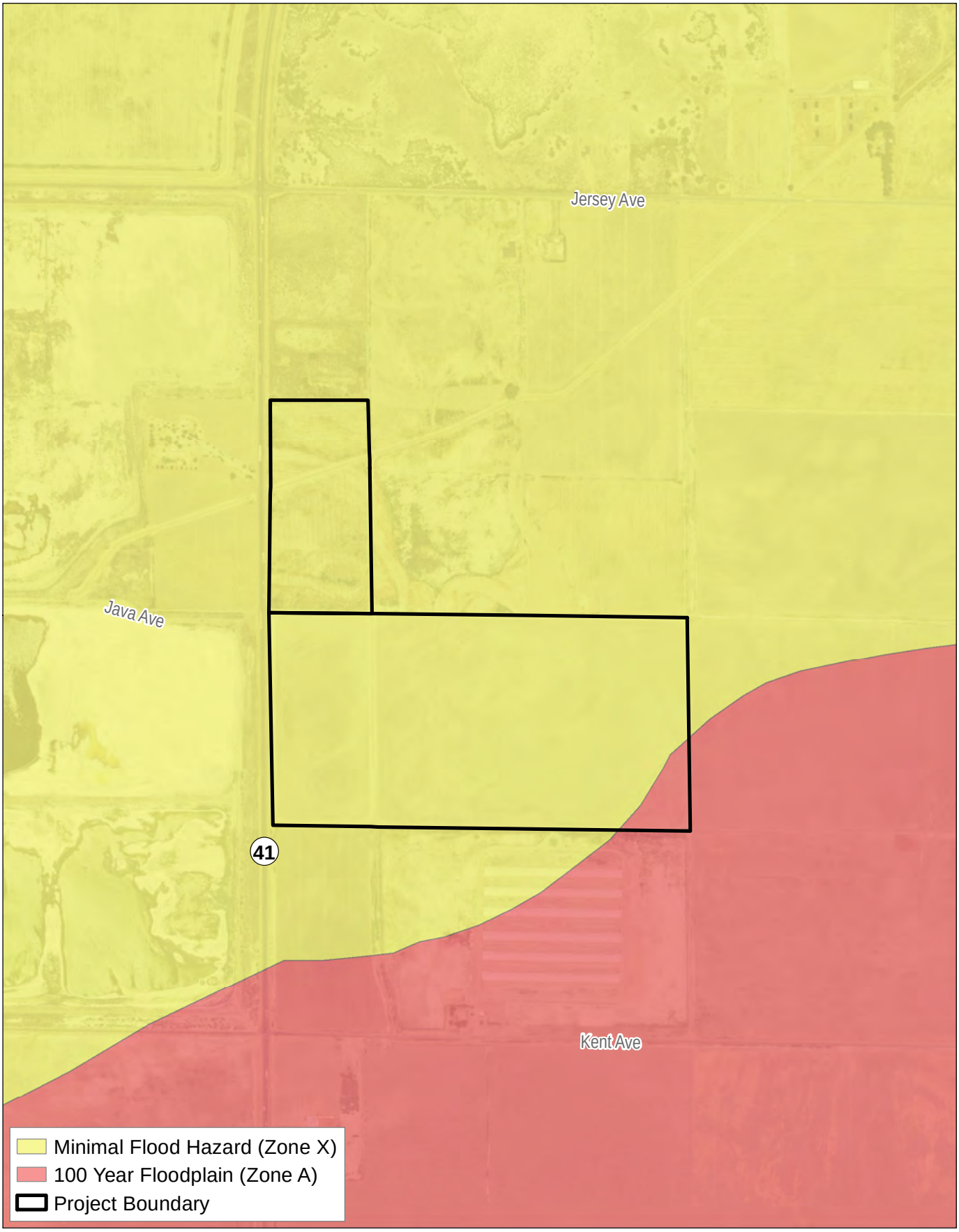
Three man-made agricultural evaporation ponds are located on property to the west of the Project site, the closest of which is approximately 200 feet from the site border. Known as the Westlake Farms North Evaporation Bain (Westlake Farms), these ponds cover approximately 640 acres, just west of SR-41. Though the ponds were nearly dry during biological surveys in November 2014 and January 2015, historic aerial images show that the ponds have been fully flooded in the past.

Federal Emergency Management Agency-Designated 100-Year Flood Zone

A small portion of the southeast corner of the Java Project site lies within a Federal Emergency Management Agency (FEMA)-designated 100-year flood zone (Figure 3.9-1).

Java Project Water Demand

During the 8-month construction phase, approximately 15 acre-feet of water (less than 2 acre-feet per month) would be required for activities such as dust suppression and soil compaction. Less than 33,000 gallons per year (approximately 0.1 acre-feet) would be needed during operations, primarily for panel washing. Water required for construction and operation would be supplied from existing wells near the property, from a new well to be drilled on the Java Project site, or from a local water district. One or two small (10,000-gallon) water tanks would be installed on site to store or treat water for use during operation.



Source: FEMA NFHL 2015
Basemap: ESRI World Imagery

Figure 3.9-1
Flood Hazards in the Project Area
Java Solar Project
Kings County, California

0 500 1,000
Feet

Regulatory Setting

Federal

The CWA (33 U.S.C. 1251 et seq.) regulates discharge of pollutants into the waters of the U.S. with the objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the USACE is authorized to regulate the discharge of fill or dredged material into waters of the United States, which includes wetlands. Wetlands are defined as lands that are "inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations 328.3; 40 Code of Federal Regulations 230.3). The USACE requires a project proponent to obtain a Section 404 Nationwide or Individual Permit if the project proposes to dredge or fill waters that fall within the jurisdiction of the CWA.

Section 401 of the CWA stipulates that a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. unless the state or tribe where the discharge would originate has granted or waived Section 401 water quality certification. The state or tribe may grant, grant with conditions, deny, or waive certification. In California, the RWQCB administer the Section 401 Water Quality Certification Program. Section 401 certification is required before the USACE may issue a Section 404 permit for discharge of dredged or fill material into waters of the U.S. Many states, including California, rely on Section 401 certification as a primary regulatory tool for protecting wetlands and other aquatic resources.

State

Under the NPDES, the applicable RWQCB, in this case the Central Valley RWQCB, requires an application under the Construction Activities Storm Water General Permit (Order 2009-009-DWQ) for storm water discharges associated with any construction activity, including clearing, grading, and excavation that results in the disturbance of at least 1 acre of total land area. Because the project would disturb more than 1 acre, an NPDES permit and SWPPP would be required. The Porter Cologne Act also requires Water Discharge Requirements for discharges where state—but not federal—jurisdictional waters are affected.

Local

No Urban Water Management Plans apply to the project.

The *2035 Kings County General Plan* includes goals, policies, and objectives for water resource protection and conservation, including measures addressing reliable, long-term water supply; water supply for sustainable agriculture; watershed protection; and floodway protection (Kings County CDA 2010). Measures from the Resource Conservation Element of the General Plan include the following:

> **RC Policy A1.1.2:** Review new discretionary development proposals, including new or expanded uses within agricultural zone districts, to ensure that there are adequate water supplies to accommodate such uses. Projects should provide evidence of adequate and sustainable water availability prior to approval of a tentative map or other land use approval.
>
> **RC Policy A1.2.2:** Require the use of low water consuming, drought-tolerant and native landscaping and other water conserving techniques, such as mulching, drip irrigation and moisture sensors, for new development.

RC Policy A1.2.6: Future development shall incorporate Low Impact Development principles to minimize long-term storm water runoff. Such principles shall include:

- Permeable paving, such as pavers, porous concrete, or pathway comprised of decomposed granite that is effective in storm water infiltration to help prevent excess runoff.
- Use of "urban bio-swales" to redirect storm water into planter strips, rather than capturing runoff in pipes and diverting it to a remote location.
- Use of water-efficient irrigation (e.g., drip irrigation system) to water trees, shrub beds, and areas of groundcover to eliminate evaporation losses and minimize runoff.
- Use of Predominately (75 percent) native plants and drought-tolerant landscaping wherever possible.

RC Policy A1.4.1: Evaluate proposed land uses and development projects for their potential to create surface and groundwater contamination from point and non-point sources. Confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products or waste; floating debris; and runoff from the site.

RC Policy A1.4.2: Monitor and enforce provisions to control water pollution contained in the U.S. EPA NPDES program as implemented by the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.3: Require the use of feasible and cost-effective BMPs and other measures designed to protect surface water and groundwater from the adverse effects of construction activities and urban and agricultural runoff in coordination with the California Water Quality Control Board, Central Valley Region.

RC Policy A1.6.2: Support measures to ensure that water users do not unreasonably use groundwater resources.

RC Policy A1.6.3: Protect groundwater by enforcing the requirements for installation of wells in conformity with the California Water Code, the Kings County Well Ordinance, and other pertinent state and local requirements.

RC Policy A2.1.4: Coordinate the review of all development proposals within or adjacent to designated floodways with relevant resource conservation district entities to ensure compliance with Central Valley Flood Protection Board requirements, and local Floodplain Administration requirements (Kings County 2010).

Approximately 3 acres, located at the southeast corner, of the 96-acre Java Project site are located within a Special Flood Hazard Area. The proposed development would meet the requirements of the Kings County Code of Ordinances, Chapter 5A, Flood Damage Prevention.

3.9.2 Environmental Impacts and Mitigation Measures

a. Would the project violate any water quality standards or waste discharge requirements?

LESS THAN SIGNIFICANT WITH MITIGATION. Water quality standards in the State of California can apply to drinking water, stormwater, and wastewater treatment. Drinking water is regulated by the California Department of Public Health, and those standards apply to local water distribution systems for domestic water supply. Waste discharge requirements are applied to local wastewater treatment facilities and are regulated by the RWQCB. The Java Project would have no impact on drinking water or wastewater treatment standards, as it would not involve installation of domestic water distribution, nor would it involve wastewater discharge. Drinking water would be provided to workers on site in bottles, and portable toilets would be provided and serviced by an outside contractor during construction, major maintenance and decommissioning and not needed during normal operations as the facility will be unmanned.

The National Pollutant Discharge Elimination System (NPDES) Program has responsibility for regulating stormwater discharges to surface waters. Due to the amount of disturbance that would result from the Project, the applicant would be required to obtain coverage under the Construction Stormwater General Permit from the RWQCB and comply with all conditions of the permit. The applicant would also be required to implement a SWPPP as described in MM HYD-1, which would be developed based on final engineering design and would include all Project components. The SWPPP is required by law to include erosion and sediment control measures to reduce runoff during construction. In addition, MM HAZ-1 includes preparation of a HMBP, which would be designed to improve worker safety during construction and would include procedures to minimize the potential for and effects of spills of hazardous or non-hazardous contaminants during Project construction.

Implementation of MM HYD-1 and MM HAZ-1 would ensure that there are no violations of water quality standards or waste discharge requirements during construction. Impacts related to water quality or waste discharge are not anticipated for post-construction operation or maintenance on the Java Project site. Although panel washing would be performed during operation and maintenance, the small quantities of water required to wash panels would percolate into the soil and would not be a source significant runoff. For example, although the Project site is not currently used for agricultural production and has been dryfarmed in recent years, agricultural row crop production typically uses greater quantities of water than the amounts proposed during operation of the Project, as discussed in greater detail under criterion "b." Because the Java Project would use smaller quantities of water than what would ordinarily be required for agricultural row crop production, it is reasonable to assume that the operational quantities of water would be similarly absorbed by the soil.

The decommissioning phase would remove the Project components, and the activities would be similar to those of the construction phase. MM HYD-1 and MM HAZ-1 would also be implemented during decommissioning; therefore, there would be a less than significant impact under this criterion.

> **MM 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 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. Example SWPPP measures may include the following:

- Preserve existing vegetation where required and when feasible.
- Reseeding vegetation, where appropriate.
- Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods.
- Maintain sufficient quantities of temporary sediment control materials on-site throughout the duration of the project.

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

LESS THAN SIGNIFICANT. APN 024-170-011 consists of a defunct pomegranate orchard, and APN 024-170-010 has previously been planted with wheat and barley, although the latter parcel has been dry farmed in recent years and has received no water for at least four years. According to a study published by Congressional Research Service, in 2013, wheat crops in California used an average of 2.1 acre-feet of water per acre; barley crops used an average of 1.8 acre-feet per acre; and orchard land used an average of 2.7 acre-feet per acre (Johnson and Cody 2015). APN 024-170-010 is approximately 78 acres. Therefore, over the course of an average year, a barley crop on a 78-acre parcel could use up to 140 acre-feet of water. APN 024-170-011 is approximately 18 acres. Therefore, over the course of an average year, a functional 18-acre orchard could use up to 48 acre-feet of water. In contrast, the Java Project proposes to use significantly less water over the course of construction (15 acre-feet), operation (0.1 acre-feet), and decommissioning than an average agricultural site.

Groundwater wells in the Tulare Lake Subbasin are relatively productive, with an average yield ranging from 300 to 1,000 gallons per minute (irrigation wells), as aforementioned. Based on the applicant's estimates of construction water use, less than 2 acre-feet per month would be used. This usage could include water from nearby groundwater well(s), new well onsite, or local water district for up to 8 months. During operation, approximately 0.1 acre-feet of water per year would be used. These volumes are relatively minor compared to overall regional water use, especially in comparison to the high volumes consumed for agricultural purposes (5,550 acre-feet per year). Although well yields for the area have declined during recent drought years, and the Tulare Lake Subbasin is considered a high-priority for groundwater monitoring under the California Statewide Groundwater Elevation Monitoring Program, considering the small amount of water that would be used compared to agricultural uses, if all or a portion of the Project's water is supplied by local groundwater, it is estimated that average well yields would support the project uses. The Project would not deplete local groundwater supplies. In addition, it is estimated that the Project would increase total impervious surfaces by less than one acre. Therefore, the Project would not substantially interfere with groundwater recharge. Impacts under this criterion 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, in a manner which would result in substantial erosion or siltation on- or off-site?

LESS THAN SIGNIFICANT WITH MITIGATION. There are no streams or rivers on site. The Java Project site contains two irrigation ditches (DR-1 and DR-4), which were historically used to deliver water to the Project area from the Kings River, as well as a ditch running along the southern border of the site outside of the Project boundary (DR-3) (Figure 3.4-1). DR-1 and DR-3 would not be impacted by the Java Project, however DR-4 may be filled during construction. Currently, the banks of DR-4 are raised up above the surrounding land area on the site, and it does not act as a collection area for the majority of the

site. Precipitation that would normally have fallen into the ditch would percolate into the fill. This would not represent a substantial alteration in the existing drainage pattern because the ditch is not a drainage feature. .

Site grading would be minimized during construction and much of the land on the Java Project site would be used for agriculture (e.g., sheep grazing) after construction, as described in Chapter 1, "Background Information." Ground preparation would include minor grading to smooth out any furrows leftover from past agricultural activities. The Java Project site is flat and surface water runoff is not anticipated to result in sheet flow. Additionally, the constructed Java Project would include vegetated areas and pervious driveways; stormwater would percolate into the ground in these areas. The installation of Java Project components, particularly the substation and power conversion station foundations, would introduce a small number of impervious surfaces onto the Project site. In addition, PV arrays would be driven directly into the ground with a pile driving machine, which would also reduce the amount of impervious surfaces; however, the reduction would be less than other PV technologies, which use concrete footings or pads. Altogether, it is estimated that the Java Project would increase the total area of impervious surface by less than one acre, an amount that represents less than two percent of the total site.

With implementation of MM HYD-1, SWPPP measures addressing erosion control and sedimentation would further minimize the potential for construction of the Java Project to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation onsite and offsite. With the implementation of MM HYD-1, impacts under this criterion would be less than significant.

d. 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

LESS THAN SIGNIFICANT WITH MITIGATION. The Java Project site would introduce an estimated one acre of impervious surfaces, including the substation and power conversion station foundations, and PV arrays, accounting for less than 2-percent of the total site area. The driveways would be graveled, to allow for percolation of rainfall into the underlying soil. In addition, much of the Java Project site would be vegetated after construction, further reducing the potential for increased surface runoff. In addition, PV arrays would be driven directly into the ground with a pile driving machine, resulting in fewer impervious surfaces than other PV technologies, which use concrete footings or pads.

The Java Project site is nearly flat, and therefore, no significant grading would be required. Under current conditions, rainfall percolates into the ground with little or no runoff leaving the site. The impervious surfaces would cause water that would normally percolate into the ground to runoff onto adjacent areas; however, the minor increase in runoff would also be readily absorbed into the ground. The solar panels would not displace runoff, as they would be above ground level and water would run off of the panels onto the permeable vegetated soils underneath. Under more prolonged rain events, small volumes of water may temporarily pond on the surface of the site; however, that water would percolate into the ground as it would under current site conditions.

In the event that DR-4 is filled by the applicant, the amount of fill would be less than half an acre of the total project site. The edges of the ditch are raised up from the rest of the parcel, and therefore, the ditch does not act as a collection area for the majority of the site. If the ditch is filled, precipitation that would normally percolate into the soils in the ditch would instead percolate into the fill soil and would not increase the rate or amount of surface water runoff. Therefore, filling the ditch would not change the site's overall hydrology and would not result in a substantial increase in the rate of surface runoff. As such, construction and operation of the Project would not result in flooding on- or off-site.

Project decommissioning would involve the removal of all improvements, including subsurface improvements as outlined in MM AG-2. Currently, the site does not have substantial runoff resulting in flooding. Therefore, reverting back to pre-project conditions would similarly result in no substantial increase in the rate of surface runoff.

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. As there would be very minor alterations of the existing level site terrain and minor introduction of impervious surfaces, impacts from drainage and flooding associated with the Project would be less than significant.

e. Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

LESS THAN SIGNIFICANT WITH MITIGATION. As described above, the Java Project would result in approximately one acre of impervious surfaces and require limited grading of an already virtually level site. Therefore, changes to the existing drainage patterns would not cause a significant impact related to stormwater drainage systems during operation. The Java Project does not require a stormwater drainage system because rainfall would percolate directly into the soils on the site. Although the introduction of impervious surfaces may result in a minor increase in runoff in certain locations on the site, the increase would be negligible, as described above, and would not exceed the site's existing capacity for handling stormwater.

Construction of the Project could result in runoff containing pollutants from construction equipment and vehicles (e.g. oil, gasoline, hydraulic fluids); however, the applicant would follow all rules, standards, and regulations associated with their use. To ensure that impacts are less than significant, the applicant would implement MM HAZ-1, which would include preparation of a Hazardous Materials Business Plan, thus minimizing the potential for and effects of spills of hazardous or non-hazardous contaminants during Project construction and reducing the potential for polluted runoff from the Project site. In addition, MM HYD-1 describes the applicant's preparation and implementation of a SWPPP, which would further reduce stormwater pollution by requiring that the applicant comply with best management practices for stormwater management.

Decommissioning activities would be similar to those during construction but would involve the removal of all improvements on the Java Project. Implementation of the same MMs required during construction would ensure that decommissioning does not result in substantial sources of polluted runoff.

Therefore, with the implementation of MM HAZ-1 and MM HYD-1, impacts under this criterion would be less than significant.

f. Would the project otherwise substantially degrade water quality?

LESS THAN SIGNIFICANT WITH MITIGATION. There are no sources of surface water on site. Therefore, the Project would have no potential to degrade surface water quality. During construction, operation, and decommissioning, spills or leaks from equipment (e.g., oil, gasoline, hydraulic fluids) could result in soil contamination; however, solar PV plants generally do not require the use of hazardous materials in sufficient quantities to percolate into groundwater. Nonetheless, MM HAZ-1 includes implementation of a Hazardous Materials Business Plan, which would minimize the potential for and effects of spills of hazardous or non-hazardous contaminants, such as vegetable-based transformer oil. Therefore, in the event of a spill, the applicant would comply with measures outlined in the HMBP, thus reducing the potential for vegetable-based transformer oil to percolate into groundwater. With implementation of MM HAZ-1, the Project's potential to degrade water quality would be less than significant during construction, operation, and decommissioning.

g. Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

NO IMPACT. No housing construction is proposed as part of the Java Project site; therefore, construction and operation of the Java Project site would result in no impact under this criterion.

h. Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

LESS THAN SIGNIFICANT. A small portion, approximately 3 acres at the southeast corner, of the Java Project site is located within a FEMA designated 100-year floodplain in the southern portion of the site. The facilities to be installed in this area are primarily the solar panels on elevated piles and small footprints of other facilities, which would allow flood flows to travel through un-impeded (i.e., flood flows would not back up and rise one (1) foot). This type of development would not significantly affect flood flows. Therefore, construction and operation of the Java Project site would result in a less than significant impact under this criterion.

i. Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

LESS THAN SIGNIFICANT. As discussed above, a small portion of the Java Project site would be located within a FEMA-designated, 100-year flood zone; however, major components, such as the Project substation, would not be located in this area. Further, the solar panels are elevated on piles, and the Project design would ensure that the facilities within any flood zone area are protected against 100-year flood events by placement, elevation, and other design methods. In addition, since the Project would not significantly affect site hydrology, there would be no significant increase in offsite flooding risk. The region also has relatively few inhabitants. Therefore, in the event of a flood event, the Project would not pose a significant risk of loss, injury, or death. Any impact would, therefore, be less than significant under this criterion.

j. Inundation by seiche, tsunami, or mudflow?

NO IMPACT. People or structures would not be exposed to hazards associated with seiche, tsunami, or mudflow because no large bodies of water exist near the area of the Java Project site. The Pacific Ocean is approximately 100 miles from the Java Project site and separated from Kings County by the barrier of the Coast Range Mountains. No impacts would occur under this criterion.

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3.10 Land Use and Planning

Table 3.10-1 Land Use and Planning Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

3.10.1 Setting

Environmental Setting

The Java Project would occupy approximately 96 acres of agricultural land in unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The Java Project site is bordered to the north, south and east by agricultural land, and by SR-41 to the west. The Kings River is approximately 2 miles west, and the entrance to NAS Lemoore is approximately 3 miles northwest.

In previous decades, land in the region was used for intensive agricultural purposes. Much of the cultivated land supported grain and row crops (e.g., cotton, tomatoes, and alfalfa) and was tilled regularly for weed, pest, and fire control purposes. Lands adjacent to the Java Project site still support some grain and row crops, as well as sheep grazing and confined poultry operations (E & E 2015). Due to lack of available surface water and poor quality soils, among other reasons, the Kings County Board of Supervisors projects that irrigated agriculture in the region will face a significant decline. Consequently, a number of solar facilities have recently been constructed or are under construction in the vicinity of the Java Project site.

Approximately one mile northwest of the project, between Kent and Jersey Avenues, west of SR-41, three man-made evaporation ponds are present known as Westlake Farms. Combined, the ponds encompass approximately 640 acres.

There are no inhabited dwellings on the Java Project site. A man-made irrigation canal with an earthen bank runs north-south through the western third of APN 024-170-010; a second man-made irrigation canal runs east-west through APN 024-170-011. Wooden utility poles and low-voltage distribution lines are present along SR-41.

Zoning and General Plan Land Use Designation

The Land Use Element of the *2035 Kings County General Plan* includes goals, policies, and objectives that address establishing and maintaining buffers between urban and agricultural uses; require developers to improve all access driveways to the nearest county-maintained road; address the provision of adequate industrial areas to promote cost-effective operations and to create more local employment opportunities with minimal adverse effects; and promote the maintenance of non-urban and open space uses in

agricultural and rural areas in the county (Kings County CDA 2010a). The land use designation is General Agriculture – 20 Acre (North County) and the zoning designation is General Agricultural (AG-20) for the Java Project site (Kings County CDA 2010a). Solar development is permitted on lands within this designation and zone district in conjunction with a CUP.

Land Use Goal B7 of the *2035 Kings County General Plan* states that agricultural open space areas are compatible with "community benefiting non-agricultural uses" (Kings County CDA 2010a). Specifically, Land Use Policy B7.1.3 describes that "power generation facilities for commercial markets shall be allowed and regulated through the CUP approval process, and include thermal, wind, and solar PV electrical generating facilities that produce power" (Kings County CDA 2010a). According to Kings County Agricultural Zoning Districts "wind and solar PV electrical generating facilities that commercially produce power for sale, which comply with all local, regional, State, and Federal regulations" may be permitted in accordance with the provisions of Article 11 Section 1112 on land zoned AG-20 with CUPs. Additionally, public utility and public service structures, including electric power lines and distribution substations, are permitted uses under the AG-20 and all other zoning designation (County 2016).

Using a separate methodology to designate land use categories, the DOC FMMP, designates the Java Project site as Farmland of Statewide Importance (Figure 3.2-1) (CDC 2012). To qualify for this designation, the land has to have been used for irrigated agriculture within the last four years.

A portion of the Project site (APN: 024-170-010) is also under a 20-year Farmland Security Zone Contract pursuant to the Williamson Act.

Kings County Airport Land Use Compatibility Plan. The Kings County Airport Land Use Compatibility Plan establishes procedures for development based on the impacts of land development on flight safety in the vicinity of the Corcoran Airport and Hanford Municipal Airports, as well as their respective spheres of influence (Kings County 1994). Potential impacts from development identified in the plan include impacts related to safety and general concerns related to aircraft overflights. Under this plan, individual development actions that may involve a question of compatibility with airport activities, as determined by the respective local planning agency, are reviewed by that agency (Kings County 1994).

The Java Project site is not within any airport influence zones (Kings County CDA 2010a). The nearest airport influence zone is associated with the Hanford Municipal Airport, more than 10 miles northeast of the Java Project site. The Java Project site is 2.33 miles from the Jones Farm private use airstrip and 3.3 miles southeast of NAS Lemoore's southern boundary. The closest private airstrip is located a half-mile southeast of the Project site and is operated by Blair Air and Ground, a crop dusting company.

Military Compatibility.

- *Military Influence Area.* The Project site falls within the NAS Lemoore MIA, which covers most of the northwest portion of Kings County (Kings County CDA 2010a). The MIA was established to address land use compatibility around NAS Lemoore, which straddles both Kings and Fresno counties. Both counties, as well as the City of Lemoore, have coordinated with NAS Lemoore to address land use compatibility and develop review/approval measures for development either near NAS Lemoore or within the MIA.

- *NAS Lemoore Compatible Use Planning Processes.* The *2035 Kings County General Plan* also includes goals, objectives, and policies to facilitate compatible land use with NAS Lemoore, including policies designed to maintain an open space agricultural buffer around the base (LU Objective B6.1) and achieve compatibility with NAS Lemoore plans, including the Air Installations Compatible Uses Zones (AICUZ) Report (LU Policy B6.1.1). The Health and Safety Element of the *2035 Kings County General Plan* also recommends a restrictive land use buffer around NAS Lemoore (HS Objective C3.1) and recommends establishing restrictive land use policies within three miles of the base (HS Policy C3.1.1) (Kings County CDA 2010b).

  In addition, Kings County, Fresno County, the City of Lemoore, and NAS Lemoore have a Joint Land Use Study (JLUS), which promotes cooperative planning efforts between the base and surrounding communities to limit or prevent activities that may encroach upon NAS Lemoore's mission. Released on August 30, 2011, the NAS Lemoore JLUS identifies areas of concern, analyzes potential impacts, and provides development recommendations that reduce future impacts on the base's operations. The study also states that since commercial solar farms are a conditional use in Kings County, their development should be directed to lower priority farmland, as stated within the *2035 Kings County General Plan*. Though the Java Project site would be located in an MIA, it would not be within an accident potential zone. Specifically, the Java Project site would be located within Noise Contour Zone 1 (community noise equivalent level [CNEL] > 60 decibels); utilities are listed as a compatible land use in this zones. (NAS Lemoore 2011)

  Height standards for defining obstructions to air navigation are established by the Federal Aviation Administration (FAA) and defined in Federal Aviation Regulation Section 77, Objects Affecting Navigable Airspace. To make a determination as to whether or not a project constitutes a hazard to air navigation, Federal Aviation Regulation Section 77 Subpart B requires that notice be given to the FAA if any kind of construction or alteration is (1) more than 200 feet in height above the ground level at its site, or (2) of a greater height than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from all edges of the runway surface if the runway is more than 3,200 feet in length, or an imaginary surface extending outward and upward at a slope of 50 to 1 for a horizontal distance of 10,000 feet from all edges of the runway surface if the runway is more than 3,200 feet in length.

  The State of California Governor's Office of Planning and Research established a Strategic Coordination and Engagement Program as a mechanism for coordinating and reviewing land use decisions to balance the needs of local government and the military in California. Senate Bill 1462 requires that local government notify all branches of the United States Military when proposed general plan amendments or development projects may have an impact on military facilities and operation (The Governor's Office 2011). In addition, this bill provides that state policy is to cooperate with the military to protect special use airspace. Senate Bill 1462 provides a means by which NAS Lemoore can work with local government to prevent and mitigate incompatible land uses within the AICUZ.

3.10.2 Environmental Impacts and Mitigation Measures

a. Would the project physically divide an established community?

NO IMPACT. The Java Project site is not located within an established community, so the proposed solar facilities would not physically divide any such community.

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

NO IMPACT. The Java Project would not establish an inconsistent use in the area and, as a conditionally permitted use on land designated and zoned AG-20, would not conflict with the goals and policies of the *2035 Kings County General Plan*, *Kings County Development Code*, the NAS Lemoore JLUS, or FAA air navigation standards.

As described in more detail in Section 3.2, "Agriculture and Forestry Resources," the Project would be compatible with the *2035 Kings County General Plan*, *Kings County Development Code*, and the *Williamson Act*.

Therefore, the project would result in no impact with respect to potential conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

NO IMPACT. As discussed in Section 3.4, "Biological Resources," the Java Project site is not within the planning area for any applicable habitat conservation plans or natural community conservation plans; no impact would result under this criterion.

References

California Department of Conservation (CDC). 2012. "Kings County." *Farmland Mapping and Monitoring Program*. Accessed June 2, 2015. http://www.conservation.ca.gov/dlrp/fmmp/Pages/Kings.aspx

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Naval Air Station Lemoore (NAS Lemoore). 2011. *Naval Air Station Lemoore Joint Land Use Study*. North Tustin, CA. Prepared by Tetra Tech, Inc. for the Joint Land Use Study Policy Committee. Final Release.

The Governor's Office of Planning and Research. 2011. "Military Affairs." *State of California*. Accessed June 9, 2015. http://www.opr.ca.gov/s_military.php.

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3.11 Mineral Resources

Table 3.11-1 Mineral Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.11.1 Setting

Environmental Setting

The Java Project would be located on approximately 96 acres of agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The Java Project site is in the southern portion of California's Great Valley Geomorphic Province.

Mineral Resources

Kings County has one surface mining permit for a non-active gravel operation and two agricultural reclamation sites that have been fully reclaimed. Historical local mines that are now closed include an open pit gypsum mine and a mercury mine in southwestern Kings County (Kings County CDA 2010b). Mineral extraction is not occurring on or adjacent to the Project site. There are no mineral resource zones mapped in Kings County (CDC 2015a). The Project site is not located within the boundary of an oil and gas field (CDC 2015b).

Regulatory Setting

State

Under the California State Surface Mining and Reclamation Act of 1975, Mineral Resource Zones (MRZs) are used by the State Geologist to classify land according to its level of significance as a mineral resource. MRZs are used to help identify and protect state mineral resources from urban expansion or other irreversible land uses that might preclude mineral extraction.

Local

The State Geologist has not yet mapped and classified mineral resources in Kings County (CDC 2013). No MRZ designations have been identified within the county. Only limited commercial mining and mineral extraction takes place in Kings County and such activities are currently limited to excavation of sand, gravel, and some hydrocarbon drilling. Historical mining of gypsum, mercury, and hydrocarbons indicate that there may be deposits of these minerals within Kings County (Kings County CDA 2010).

3.11.2 Environmental Impacts and Mitigation Measures

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?

NO IMPACT. The Java Project site is neither within an established MRZ nor the administrative boundary of an oil and gas field; therefore, 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. There would be no impacts under this criterion.

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?

NO IMPACT. The current and historic use of the Project site has been agricultural production. The Project site is not within an established MRZ, and economically viable mineral deposits are not known to be present. Kings County has been identified as a source of gypsum, but gypsum mines are not currently in operation in the county. The Java Project would have no impact under this criterion.

References

California Department of Conservation (CDC). 2013. *Publications of the Surface Mining and Reclamation Act (SMARA) Mineral Land Classification Project Dealing with Mineral Resources in California*. Sacramento, CA. California Geological Survey.

_____. 2015a. "Mine Information from the Office of Mine Reclamation." Accessed June 3, 2015. http://maps.conservation.ca.gov/mol/mol-app.html.

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3.12 Noise

Table 3.12-1 Noise Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

3.12.1 Setting

Community Noise Concepts

Noise is defined as "unwanted sound." Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound becomes unwanted when it interferes with normal activities, causes physical harm, or has adverse effects on health.

Noise is measured on a logarithmic scale of sound pressure level known as decibel. The most common method of measuring noise is the overall A-weighted sound level measurement, which has been adopted by regulatory bodies worldwide. The A-weighted decibel (dBA) scale measures sound in a way that is similar to how a person hears and, thus, achieves a very good correlation in terms of how to evaluate acceptable and unacceptable sound levels.

A-weighted sound levels are typically measured or presented as the equivalent sound pressure level (L_{eq}), which is defined as the average noise level, on an equal energy basis for a stated period of time and is commonly used to measure steady-state sound or dominant noise. The L_{eq} sound level is usually best represented by an equivalent level over a given time period or by an average level occurring over a 24-hour period ($L_{eq[24]}$).

During the evening and at night, exterior background noises are generally lower than daytime levels; however, most household noise also decreases at night and exterior noise becomes more noticeable. Furthermore, most people sleep at night and are sensitive to intrusive noises. To account for human sensitivity to evening and nighttime noise levels, the day-night average sound level (DNL, or L_{dn}) and community noise equivalent level (CNEL) were developed. The CNEL is a noise index that accounts for the greater annoyance of noise during evening hours (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.). The DNL is equal to the 24-hour A-weighted equivalent sound level that accounts for the greater annoyance of noise during the nighttime hours (10:00 p.m. to 7:00 a.m.).

Examples of typical sound levels in the environment and industry are shown in Table 3.12-2.

Table 3.12-2 Typical Sound Levels

Sound Source	dBA	Response Criteria
Carrier Deck Jet Operation	140	
	130	Painfully Loud Limit Amplified Speech
Jet Takeoff (200 feet) Discotheque	120	
Auto Horn(3 feet) Riveting Machine	110	Maximum Vocal Effort
Jet Takeoff (2000 feet) Shout (0.5 feet)	100	
N.Y. Subway Station Heavy Truck (50 feet)	90	Very Annoying, Hearing Damage (8 hours, continuous exposure)
Pneumatic Drill (50 feet)	80	Annoying
Freight Train (50 feet) Freeway Traffic (50 feet)	70	Telephone Use Difficult Intrusive
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Source: NYSDEC 2001
dBA = A-weighted sound level in decibels

The general human response to changes in noise levels that are similar in frequency content (e.g., comparing increases in continuous [L_{eq}] traffic noise levels) are summarized as follows:

- A 3-decibel change in sound level is considered a barely noticeable difference;
- A 5-decibel change in sound level will typically be noticeable; and
- A 10-decibel change is considered to be a doubling in loudness.

Existing Noise Environment

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the Town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information").The nearest NAS Lemoore runway is 8.25 miles northwest of the Project site.

Ambient noise levels at the Project site are mainly the result of weather conditions, farming activities, and traffic. Occasionally, aircraft originating from NAS Lemoore contribute to the noise environment in the area. Background noise levels are approximately 40 dBA in rural residential areas and 45 dBA in agricultural cropland with equipment operating (EPA 1978).

Sensitive Receptors

Noise-sensitive land uses generally are defined as locations where people reside or where the presence of unwanted sound could adversely affect the designated use of the land. Typically, noise-sensitive land uses include homes, hospitals, places of worship, libraries, and schools, as well as nature and wildlife preserves and parks. The nearest sensitive receptors to the Java Project would be scattered residences along SR-41, Jersey Avenue, and Kent Avenue as detailed in Table 3.12-6. The nearest town is Stratford, with the closest housing developments in the northern part of the town located 2.25 miles south of the site. The Java Project site is also in the vicinity of several schools, including Central Union Elementary School (1.62 miles northeast), Stratford Elementary School (2.5 miles south), Akers Elementary School (3.6 miles northwest), and Neutra Elementary School (4 miles northwest). Other receptors include housing developments east of NAS Lemoore and 3.5 miles northwest of the Java Project site, as well as NAS Lemoore Naval Hospital, 4.6 miles from the Project site. These receptors are primarily affected by vehicle noise on area roads, agricultural activities, and aircraft noise from planes flying to and from NAS Lemoore.

Regulatory Setting

Kings County General Plan Noise Element

Regulating environmental noise is the responsibility of local governments, as outlined in the Noise Element of the *2035 Kings County General Plan* (Kings County Community Development Agency 2010). The Noise Element establishes noise standards based on land use as presented in Table 3.12-3.

The Noise Element includes a policy that noise associated with construction activities shall be considered temporary, but that construction noise must comply with applicable Noise Element standards.

Federal guidance documents also address environmental noise and regulations for specific sources and are summarized in Table 3.12-4 (provided for informational purposes).

Table 3.12-3 Non-transportation Noise Standards (from the Noise Element of the 2035 Kings County General Plan, Table N-8)

Land Use	Average (Leq) / Maximum (Lmax)		
	Outdoor Area		Interior
	Daytime	Nighttime	Day and Night
All Residential	55/75	50/70	35/55
Transient Lodging	55/75	---	35/55
Hospitals and Nursing Homes	55/75	---	35/55
Theaters and Auditoriums	---	---	30/50
Churches, Meeting Halls, Schools, and Libraries, etc.	55/75	---	35/60
Office Buildings	60/75	---	45/65
Commercial Buildings	55/75	---	45/65
Playgrounds and Parks, etc.	65/75	---	---
Industry	60/80	---	50/70

Key:
Leq = sound level equivalent
Lmax = maximum noise level

Table 3.12-4 Summary of Federal Guidelines/Regulations for Exterior Noise

Agency	(dBA)
Federal Energy Regulatory Commission (a)	55 Ldn
Federal Highway Administration (b)	67Leq
U.S. Environmental Protection Agency (c)	55 Ldn
U.S. Department of Housing and Urban Development (d)	65 Ldn

Sources:
[a] FERC 2002
[b] FHWA 2006
[c] EPA 1974
[d] CFR Title 24 Part 51B
Key:
dBA = A-weighted decibel
L_{dn} = day-night level
L_{eq} = sound level equivalent

Noise from Project Construction

Use of heavy construction equipment during construction of the Java Project would generate noise. Table 3.12-5 presents typical construction equipment for this type of project, reference maximum noise levels (Lmax) at 50 feet, associated equipment usage factors, and estimated noise levels at various distances. Maximum noise levels during construction are expected to be less than 91 dBA, conservatively, at 50 feet on a short-term basis. Noise levels decrease by about 6 dBA for each doubling of the distance between the fixed noise source and the receptor.

The nearest sensitive receptors to the Java Project site are within half a mile. Table 3.12-6 presents the distances of the nearest residential receptors including the estimated noise levels anticipated during

construction. Sensitive receptors may experience a maximum noise level of approximately 57 to less than 71 dBA during project construction. This dBA is a maximum, "worst case" value that is estimated assuming all equipment is in operation simultaneously on the Project site side-by-side at a location nearest to the receptors. This scenario is highly unlikely, and therefore, receptors are not expected to experience maximum noise levels even on a temporary basis. Therefore, actual dBA levels would fall somewhere below these levels and would not reach maximum dBA levels.

Table 3.12-5 Typical Construction Equipment Lmax Noise Levels

Construction Equipment	Quantity	Usage Factor %	SPL @ 50 Feet (dBA)	Adjusted SPL @ 50 Feet (dBA)	SPL @ 250 Feet (dBA)	SPL @ 500 Feet (dBA)	SPL @1000 Feet (dBA)	SPL @2500 Feet (dBA)
Backhoe	1	40	80	76	62	56	50	42
Pile installer	1	20	80	76	66	56	50	42
Compressor	1	40	75	68	58	48	42	34
Concrete Mixer	1	40	70	66	56	46	40	32
Concrete Vibrator	1	20	85	81	71	61	55	47
Dozer	1	40	80	73	63	53	47	39
Front End Loader	1	40	85	81	71	61	55	47
Generator	1	50	80	76	66	56	50	42
Pneumatic Tools	4	50	82	79	69	59	53	45
Truck (dump, delivery)	1	40	85	88	78	68	62	54
			Total	**91**	**81**	**71**	**65**	**57**

Key:
dBA = A-weighted decibel
L_{max} = maximum noise level
SPL = sound pressure level

Construction activities at the Java Project site are expected to be audible during daytime hours for these receptors throughout the short duration of construction activities that would take place in the vicinity of the receptors. The operation of front end loaders, dozers, and pneumatic equipment is anticipated to contribute the highest dBA sound levels during construction. Pile/I-beam driving could occur during installation of the supports for the solar panel system in the area near this receptor for an estimated 16 weeks over the construction period. General construction activities would be limited to 12 hours on weekdays and Saturdays. Some critical activities may have to be performed on weekends and night shifts in order to avoid delays; however, no sensitive receptors would experience noise levels exceeding nighttime dBA thresholds.

Tabe 3.12-6 Lmax Construction Noise Level at the Nearest Residential Receptors

Receptor	Type	Direction from Site Perimeter	Distance (feet)*	Lmax Noise Level (dBA)
1	Residential	West	585	<71
2	Residential	South	1174	<65
3	Residential	Northeast	1275	<65
4	Residential	Northeast	1488	<65
5	Residential	South	1950	<65
6	Residential	Northeast	2042	<65
7	Residential	Northeast	2358	<65
8	Residential	East	2497	<65
9	Residential	East	2547	<57

Key:
dBA = A-weighted decibel
Lmax = maximum noise level
* Based on construction activity at the nearest site perimeter.

Operational Noise

Operational noise would be generated by seven power conditioning stations (PCS), a Project substation, solar PV panels, and back-up generators. The seven PCS would be located throughout the Java Project site. PCS would be approximately 12 feet by 30 feet in size and would contain inverters, which would generate low noise emissions (i.e., less than 67 dBA at 1 meter from the source). The Project substation would be approximately 220 feet by 100 feet in size and would be located in the southwest corner of APN 024-170-011. The Project Substation would house a 115-kilovolt transformer. Transformers of this size typically generate a noise level of 72 dBA at the source. Solar PV panels would also emit noise as they track the sun; however, the noise would be inaudible off site. Similarly, back-up generators would generate noise; however, back-up generators would operate infrequently during upset conditions and are unlikely to be noticeable off site.

Maintenance activities at the Java Project site would typically include panel repairs; panel washing; maintenance to transformers, inverters, and other electrical equipment as needed; maintenance of the oil/water separator system would be completed monthly. The intermittent presence of 10 to 30 workers may be required at the Project site if repairs or replacement of equipment is required. Such activities could emit noise; however, the levels of noise emitted from standard maintenance activities would be similar to noise emitted by intermittent agricultural activities.

3.12.2 Environmental Impacts and Mitigation Measures

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

LESS THAN SIGNIFICANT. The nearest residences to the Java Project are less than a half a mile from the site boundary. The closest residence is approximately 585 feet. Sensitive receptors listed in Table 3.12-6 may experience a maximum, “worst case” noise level of approximately 57 to less than 71 dBA during project construction. Although the Noise Element of the *2035 Kings County General Plan* does not include land use compatibility standards for areas zoned for agricultural uses, this noise level is generally

higher than ambient/outside noise exposure levels for rural residences in areas zoned for agriculture (approximately 40 dBA in rural residential areas and 45 dBA in agricultural cropland [EPA 1978]). Therefore, it is expected that construction activities would be audible above background levels during daytime hours in the vicinity of these receptors. The use of front end loaders, dozers, and pneumatic equipment would contribute the highest dBA sound levels during construction. However, 57 to less than 71 dBA would not exceed the County's maximum daytime noise thresholds of 75 dBA, and these activities would occur for a short duration in proximity to each receptor. If nighttime work was required,, work would not exceed the County's maximum 70 dBA nighttime threshold at any sensitive receptor location because maximum levels would be less than 71 dBA. Also, because noise exposure would be short term in nature, it would not be considered significant.

Noise sources that could be audible to sensitive receptors during operation would include the PCS, which includes inverters and the Project substation. Noise from fixed sources such as the inverters decreases at a rate of 6 dBA for every doubling of the distance, not accounting for intervening topography or vegetation, which would further decrease the noise level. Inverter noise levels would decrease to levels consistent with or below ambient sound levels at the location of the nearest sensitive receptor, due to the distance between these locations.

The Project substation would house a 115-kilovolt transformer, which would generate a noise level of 72 dBA at the source. The substation would be approximately 900 feet from the nearest sensitive receptor (Receptor 1) located on the Westlake Farms site across SR 41. Although transformer noise would increase daytime ambient noise levels for this receptor, transformer noise levels would attenuate to levels consistent with or below County thresholds due to distance and topography by the time soundwaves reach the receptor (i.e., below 48 dBA, which is below the County threshold of 55 dBA). In addition, topography and vegetation would reduce the noise level.

The PCS and substation would operate during daytime hours when the Java Project is generating power and would not operate in the evening; therefore, there would be no noise during evening and nighttime hours, when receptors are most sensitive. As a result, construction and operation of the Java Project would result in a less-than-significant impact under this criterion.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

LESS THAN SIGNIFICANT. The construction of the Java Project may generate 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) would be driven into the ground using non-vibrating pile drivers.

Vibration is measured as peak particle velocity (PPV) in inches per second. According to an Initial Study/Mitigated Negative Declaration prepared for a recent solar project in Kings County, the applicant proposed use of vibrating pile drivers and large bulldozers (Kings County 2015). Vibrating pile drivers, combined with bull dozers, were the equipment identified that would result in the greatest vibration. 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 of 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 (California Department of Transportation 2013).

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.

The applicant of the Java Project would use non-vibrating pile drivers; however, if vibrating pile drivers were used in combination with bulldozers during driving of the support posts for the solar arrays, the vibration level would be between 0.210 and 0.170 in/sec PPV, respectively, at 25 feet from the source. At a distance of 200 feet, these vibration levels would decrease to 0.0093 and 0.0075 in/sec PPV, respectively. 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. Given that the applicant would use non-vibrating pile drivers and the majority of construction activity at the Project site would occur well beyond these distances from the nearest receivers, groundborne vibration from construction would have no impact on existing structures in the 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 (California Department of Transportation 2013). The closest residential receptor is located 585 feet west of the Project. At a distance of 200 feet from the nearest construction activity on the Project site the greatest vibration would decrease to 0.0093 in/sec PPV, which would not be perceptible. The applicant of the Java Project would use non-vibrating pile drivers that would produce even lower vibration levels. Therefore, Project construction activities would not expose persons to excessive vibration levels.

In summary, the heaviest construction equipment that would be used for construction 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 Java Project would be less than significant.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

LESS THAN SIGNIFICANT. Noise from fixed sources, such as the seven PCS and the substation, would be below 72 dBA and would decrease at a rate of 6 dBA for every doubling of the distance (not accounting for intervening topography or vegetation, which would further decrease noise levels). As a result, ambient noise levels may increase; however, noise would occur only during daytime hours when receptors are less sensitive, and the increase would only affect the closest receptor. As stated above, the distance between the Project substation, which is the most significant source of noise, and the nearest sensitive receptor (Receptor 1) is approximately 900 feet, which would result in a noise level of less than 41 dBA. This noise level is below the County's threshold of 55 dBA for average daytime noise. The next closest receptors (Receptors 2 and 3) would be located over 2,200 feet away from the Project substation, which would result in a noise level of less than 35 dBA. This noise level is also below the County's threshold of 55 dBA for average daytime noise and would not be audible. These estimated noise levels are conservative and do not account for reductions in noise due to vegetation and topography. Therefore, noise levels are likely to be lower than the maximum estimated. Background noise levels are approximately 40 dBA in rural residential areas and 45 dBA in agricultural cropland with equipment operating (EPA 1978). These residences have historically been located on agricultural cropland; therefore, an increase of 1 dBA above estimated background noise levels would not be considered a substantial permanent increase. Impacts under this criterion would be less than significant.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

LESS THAN SIGNIFICANT IMPACT. Construction activities associated with the Java Project would generate temporary, localized sources of groundborne noise from the operation of heavy equipment, pile/I-beam driving, and auger drilling, which could be perceptible in the immediate vicinity of the construction area. The nearest residences to the Java Project site may experience a maximum noise level of approximately 57 to less than 71 dBA related to and during Project construction activities. These dBA levels would not exceed the County's threshold of 75 dBA for daytime noise as described above under items "a" and "c." Construction activities are anticipated to be audible for a short duration during daytime hours in the vicinity of these receptors. According to the *2035 Kings County General Plan* (Noise Policy B1.1.3), construction noise is considered temporary but must comply with Noise Element standards. Therefore, because noise levels would not exceed County thresholds, temporary increases in ambient noise levels related to construction activities would be less than significant.

Maintenance activities, including repairs, panel washing, and maintenance to transformers, inverters, and other electrical equipment, would be performed as needed. Maintenance activities would require less equipment than construction, and therefore, maximum noise levels would be well below 71 dBA at any sensitive receptor. In addition, these activities would be temporary and intermittent. Therefore, maintenance activities would not result in a substantial increase in ambient noise levels, and impacts would be less than significant under this criterion.

e. For a project located within an airport land use plan, or where such a plan has not been adopted, within 2 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?

NO IMPACT. The Project site is not located within an airport land use plan area, and no public airports or public use airports are located within 2 miles of the Java Project site as described in Section 3.10, "Land Use and Planning." Therefore, there would be no impact under this criterion.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

LESS THAN SIGNIFICANT. The closest private airstrip is located a half-mile southeast of the Project site and is operated by Blair Air and Ground. The company uses the airstrip for periodic crop dusting operations. Due to the intermittent nature of crop dusting activities, the aircraft flying in and out of this airstrip would contribute little to noise levels at the Project site. Further discussion of airports in the vicinity of the Project area can be found in Section 3.10, "Land Use and Planning." The impact would be less than significant.

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3.13 Population and Housing

Table 3.13-1 Population and Housing Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.13.1 Setting

The Java Project would occupy approximately 96 acres of agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The site is not within the City of Lemoore's urban fringe area or primary or secondary spheres of influence (Kings County CDA 2010b).

Population

The region experienced a slight decrease in residential and commercial development in recent years, as indicated by a slight dip in population and an associated dip in employment and housing. In 2010, the populations of Kings County and the City of Lemoore were 152,982 and 24,531, respectively (U.S. Census 2010a). According to 2014 California Department of Finance population estimates, Kings County and the City of Lemoore had a population of 149,942 and 25,225, respectively (DOF 2015a, 2015b)—a two percent drop for Kings County and three percent increase for the City of Lemoore.[1] Nonetheless, California Department of Finance forecasts anticipate continued growth at an increasing rate based on national and state data (DOF 2014). Between 2020 and 2030, the population of Kings County is projected to increase by approximately 15 percent. The projected increase in housing needs for the region is expected to correlate to the projected increase in population. Historical and projected growth of population in this area is summarized in Table 3.13-2, below.

[1] This loss of population in Kings County can be partially attributed to a mandated reduction of California's inmate population. According to a re-alignment policy, correctional facilities were required to return prisoners to the counties in which they committed their crimes. During 2010 and 2011 the program relocated 3,200 inmates from three state prisons in Kings County (Nidever 2015). Therefore, although population dipped in Kings County between 2010 and 2014, this drop was partially artificial.

Table 3.13-2 Regional Population Trends

	2010 Census [a]	2014 Population Estimate [b]	Estimated Growth, 2010–2014		2020 Projection [c]	Growth, 2010–2020 (%)	2030 Projection [c]	Growth, 2020–2030 (%)
			Number	%				
Regional Population and Growth Projections								
Kings County	152,982	149,942	(3040)	(2)	167,465	10	192,562	15
City of Lemoore	24,531	25,225	694	3	N/A	N/A	N/A	N/A

Sources:
[a] U.S. Census 2010a
[b] DOF 2015a
[c] DOF 2014
Key:
N/A = Information is not available

The Land Use Element of the *2035 Kings County General Plan* highlights energy conservation opportunities as a factor affecting building and population growth. The Land Use Element also includes goals for preserving agricultural lands from premature urbanization. Other policies and goals of the *2035 Kings County General Plan* include those that encourage growth in more urbanized areas of the county, as well as those that encourage preservation of agricultural uses and industries (Kings County CDA 2010b).

Housing

The Housing Element of the *2035 Kings County General Plan* includes policies that address housing, employment, and growth management, as well as the adequate provision of resources, facilities, and services (Kings County CDA 2010c). The Housing Element contains a number of goals and policies intended to encourage continuous analysis and evaluation of population trends and housing needs to allow for the development of sites and facilities that sustain population growth in the county; encourage development in existing communities; and acknowledge the governmental, environmental, infrastructure, and land use constraints to residential development in the county. As of 2015, Kings County was projected to have approximately 44,888 total housing units, with a vacancy rate of 5.9 percent. Of the total housing units in the county, 78 percent are single-family structures, 8 percent are 2- to 4-unit structures, and the remaining units are 5-unit structures or mobile homes. The City of Lemoore generally has vacancy rates similar to or slightly lower than Kings County, as shown in Table 3.13-3.

Table 3.13-3 Project Area Housing

Location	Housing Units, 2010 [a]		Housing Units, 2015 [b]	
	Total Units	Vacancy Rates (%)	Total Units	Vacancy Rates (%)
Kings County	43,867	6.0	44,888	5.9
City of Lemoore	8,632	5.1	8,977	4.9

Sources:
a U.S. Census 2010a
b DOF 2015b

Employment

The economy of the Kings County region is predominantly agriculture-based, with approximately 90 percent of land in the county devoted to agricultural uses (Kings County CDA 2010a). In 2013, Government, Agriculture, Trade, Transportation and Utilities and Manufacturing were the County's largest employers. Together, these industries accounted for 31,900 jobs (74 percent) of the County's industry employment (43,200 jobs). Government, the largest employer, provided 14,300 jobs (33

percent), while Agriculture accounted for 6,400 jobs (15 percent). Trade, Transportation and Utilities contributed 5,700 jobs (13 percent) and Manufacturing, 4,500 jobs (10 percent) (EDC & JTO 2015). The DOC Division of Land Resource Protection documented changes in agriculture and open space use in the FMMP. In the California Farmland Conversion Report 2008-2010, it was reported that in 2010, of the 890,786 total acres of agricultural land in Kings County, 823,918 were zoned as farmland and grazing land, contributing significant cultural and economic value to the local economy (DOC 2014). Table 3.13-4 presents U.S. Census information on labor statistics, total employment, and major industry-specific employment in the Project area.

Table 3.13-4 Project Area Employment

Location	Employment			
	Total Employed [(a)]	In the Construction Industry		Unemployment Rate (%) [(a)]
Most Recent Data Available	2014	2010	2013	2014
Kings County	50,500	2085 (b)	1707 (c)	12.1
City of Lemoore	10,100	340 (b)	276 (c)	10.8

Sources:
[a] DOF 2015
[b] U.S. Census 2010a
[c] U.S. Census 2010b

3.13.2 Environmental Impacts and Mitigation Measures

The applicant estimates that a maximum labor force of 120 construction workers would be required during peak construction. The applicant would hire construction workers from the local labor pool to the maximum extent practicable. The remainder of the labor force would consist of union and non-union labor hired for specific skills sets (e.g., electrical tradesmen). Worker relocation and permanent housing options would not be required.

a. 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)?

LESS THAN SIGNIFICANT. The Java Project is a proposed PV solar generation facility and does not involve the construction of new homes or businesses. The Project would also not induce population growth, for example, through the extension of roads or other infrastructure. Moreover, fewer than 30 workers would be necessary to operate the Project, and the maximum workforce during the 8-month construction period would be 120 workers. Even if all temporary construction workers were to relocate to the Project area, 120 workers would represent less than 0.2 percent of the County's population, which would not be considered a "substantial" number of people. Also, in a County with over 2,000 local employees in the construction industry and a County-wide unemployment rate of over 10 percent, it is likely that many workers could be hired locally. Even assuming that all 120 workers during the 8-month construction period were to move to Kings County from outside the area, with a 6 percent vacancy rate in Kings County, there are over 2,500 available housing units to house any temporary workers. Thus, it would not be necessary to build new housing or construct new infrastructure for the additional workforce. Therefore, the additional population would not have any foreseeable impact on the environment.

The Java Project would result in a less-than-significant impact under this criterion.

b. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

NO IMPACT. The Java Project would be located on existing agricultural land. The Project would not be constructed in areas of existing housing, and implementation would not result in the displacement of existing housing or necessitate the construction of any replacement housing. Therefore, no impacts would result under this criterion.

c. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

NO IMPACT. As previously discussed, the Java Project would not result in the displacement of any housing or businesses because no substantial human populations are currently located within or close to the site. Construction and operation of the Java Project would neither result in the displacement of people nor necessitate the construction of replacement housing elsewhere. Thus, no impact would result under this criterion.

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3.14 Public Services

Table 3.14 Public Services Checklist

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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒

3.14.1 Setting

This section discusses public services in the vicinity of the Java Project, including fire protection, police protection, schools, parks, and other public facilities, which are provided and maintained by local and county entities. The environmental setting and evaluation of impacts on park and recreational facilities are discussed in Section 3.15, "Recreation."

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California. The area is 1.34 miles southwest of the City of Lemoore, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information").

Public Services

Fire Protection

The Kings County Fire Department (KCFD) serves the unincorporated areas of the County and operates 12 fire stations in addition to its headquarters in Hanford. The closet station (Station #10) is located 2.8 miles south of the Project site in Stratford, at 20200 Main Street. The Kings County Fire Department maintains a mutual aid agreement with the City of Hanford Fire Department and other outside agency fire departments. KCFD is staffed by 60 professional fire fighters with assistance from ten volunteer companies consisting of approximately 20 active firefighters. KCFD responds to 4,700 calls annually, averaging 13 calls daily (Kings County n.d.). 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. Additional fire protection response services in the County include the City of Lemoore Volunteer Fire Department, Naval Air Station Lemoore Fire Department, and Santa Rosa Rancheria Fire (Kings County CDA 2010c). The Kings County Fire Department Heliport located at Fire Station No. 4 also serves as the County's local staging area for SkyLife emergency medical helicopter transport.

Police Protection Service

Law enforcement services in unincorporated areas of Kings County are provided by the Kings County Sheriff's Office, located at 1444 West Lacey Blvd in Hanford, approximately 10 miles northeast of the Java Project site. The County is divided into six beat districts with five Sheriff substations throughout Kings County, and each beat district has one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas (Kings County CDA 2010c). The nearest substations are located in Corcoran and Kettleman City.

The California Highway Patrol (CHP) provides traffic enforcement along State highways and County roadways, with the nearest CHP offices located in Hanford and Coalinga. In addition to providing traffic enforcement, CHP also provides other services to support the overall safety of the residents of the County. They serve to pace traffic along highways during dense fog season, and have implemented the El Protector Program that utilizes Spanish speaking officers that work with agricultural related businesses on traffic safety education and enforcement. The Central Division also implemented the Skywatch program in 2001 in an effort to reduce accidents involving commercial vehicles. The program uses fixed wing aircraft, RADAR, and LIDAR, to police commercial vehicles and passenger vehicles operating unsafely on State Route 99 and Interstate 5 (Kings County CDA 2010c).

Schools

The Java Project is within the area served by the Central Union Elementary School District (four schools) and Lemoore Union High School District (three schools),. The nearest school district is Central Union Elementary. The four schools in that district range from 2 to 4 miles from the Java Project site with the exception of Central Union Elementary School, which is 1.6 miles from the site at 15783 - 18th Avenue in Lemoore.

3.14.2 Environmental Impacts and Mitigation Measures

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:

a. Fire protection?

NO IMPACT. In order to protect their investment and ensure that the solar farm is functioning properly during operation, the applicant would have up to three employees visit the site each day to perform standard maintenance procedures. Maintenance procedures would include equipment maintenance of the solar panels and other components, including repairs inside the Project substation, as well as vegetation management. Therefore, the risk of fire would be low, and the Project would not require extensive fire protection services that would necessitate the alteration or construction of fire stations or other infrastructure intended to combat fire Therefore, there would be no impact under this criterion.

b. Police protection?

NO IMPACT. In order to protect the applicant's investment, the Java Project would include fencing to deter trespassers, and the site would be monitored remotely through the use of infrared cameras, motion detectors, and/or other technology that would allow for monitoring of the site through 24/7 live footage. A security patrol would be contracted by the applicant to ensure site security during construction and operation. If the system detected the presence of unauthorized personnel, a security representative would be dispatched to the facility and appropriate local authorities would be notified. Therefore, Java Project operations would not result in a change to the provision of law enforcement protection that would require

the County to add personnel or facilities or alter existing facilities. There would be no impacts under this criterion.

c. Schools?

NO IMPACT. As described in Section 3.13, Population and Housing, County-wide unemployment is over 10 percent. Therefore, it is likely that most construction workers would be hired locally. On average, construction of the Java Project would require up to 120 workers on the Java Project site during peak construction activity. It is assumed that construction personnel would commute from within Kings County and nearby counties and would not create a permanent change in local population. Therefore, no new schools or modifications to existing schools would be required during construction.

On intermittent occasions during operations, the presence of 10 to 30 workers may be required if major maintenance is required and even fewer for twice yearly panel washing; however, workers would commute temporarily for a short period of time and would not permanently locate to the Project area. Maintenance of the Java Project would require a small local workforce (up to three workers) to perform visual inspections and minor repairs on a daily basis from an adjacent solar project. Therefore, no additional daily workers are required to operate the Java Project. Therefore, the Java Project would not result in the need to expand existing or construct new school facilities. There would be no impact under this criterion.

d. Parks?

NO IMPACT. As described in Section 3.15, "Recreation," as of 2008, unincorporated areas of Kings County provided 4.8 acres of parkland per 1,000 residents, and while the County as a whole does not have an established standard ratio for parkland and residents, the communities of Stratford and Armona have a standard requirement of 2 acres of parkland per 1,000 residents. With the County's projected population (44,788 residents) and parkland (144 acres) for 2035, Kings County has a projected ratio of 3.2 acres per 1,000 residents (Kings County 2009). As described above, construction of the Java Project would not significantly increase the population of Kings County, and therefore, any increase in the use of park facilities would be minimal as well as temporary. As described above, a small local workforce would be required during operation of the Java Project. Although up to three workers would be required to support the Project, these three workers would come from an adjacent solar project, which would negate the possibility of permanent labor migration. Even if three workers were to permanently relocate to the Project area with their families, the parkland-to-person ratios would be well above threshold levels as discussed in Section 3.15, "Recreation." Therefore, the addition of 11 residents would not necessitate the addition of any new park facilities or modifications to existing facilities. There would be no impact under this criterion.

e. Other public facilities?

NO IMPACT. As discussed above, the Java Project would not result in a substantial increase in population during or after construction and would not affect other government services or public facilities. There would be no impact under this criterion.

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3.15 Recreation

Table 3.15-1 Recreation Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

3.15.1 Setting

Environmental Setting

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information"). The entrance to NAS Lemoore and its runways are to the northwest, 4.6 and 8.25 miles respectively. The nearest recreational facility to the Project site is the Phoenix Sunrise Golf Course, approximately 3 miles northeast.

Regulatory Setting

Kings County General Plan

Objectives D1.1 and D1.2 of the Open Space Element of the *2035 Kings County General Plan* outline the following policies to maintain the existing county park system and encourage further development of recreational facilities:

Open Space Policy D1.1.1: Apply the "Public/Quasi-Public" land use designation to County Parks.

Open Space Policy D1.1.2: Community Plans should facilitate the development and maintenance of community park(s) within Community District areas to expand recreational resources available to residents.

Open Space Policy D1.1.3: Support community involvement that builds capacity for the long term maintenance and upkeep of open space and community park space within Community Districts.

Open Space D1.2.1: Support the establishment of new commercial recreational development, provided it is compatible with surrounding land uses and the intensity of such development does not exceed the ability of the natural environment of the site and the surrounding area to accommodate it. Such facilities may include, but are not limited to campgrounds, recreational camps, hotels and destination resorts, ball courts and ball fields, skeet clubs and facilities, hunting and fishing clubs, and equestrian facilities (Kings County CDA 2010).

The 1975 Quimby Act

The 1975 Quimby Act, California Government Code § 66477, gives Kings County the authority, by ordinance, to require the dedication of land or payment of in-lieu fees for park and recreational purposes. The standard parks to population ratio is 2 acres per 1,000 population. Though Kings County does not currently have a Quimby Act parks to population ratio, based on the 2009 population of 27,406 residents and 130.7 acres of existing parkland, Kings County has a ratio of approximately 4.8 acres of parkland per 1,000 residents. With the county's projected population (44,788 residents) and parkland (144 acres) for 2035, Kings County has a projected ratio of 3.2 acres per 1,000 residents (Kings County 2009).

3.15.2 Environmental Impacts and Mitigation Measures

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?

LESS-THAN-SIGNIFICANT IMPACT. Construction of the Java Project would require a peak workforce of 120 workers per day, which could temporarily increase the use of existing parks and recreational facilities in Kings County. Although many workers are expected to be drawn from the existing workforce and are not expected to relocate to the Project area during construction, some workers may relocate to Kings County during the temporary eight-month construction period. Upon completion of Project construction, two to three workers would perform daily visual inspections and minor repairs, and 10 to 30 workers would be required for major repairs and even fewer to clean panels on intermittent occasions.

Despite lacking a formal parklands to population ratio per the Quimby Act, Kings County exceeds the standard 2 acres of parkland per 1,000 resident by approximately 2.8 acres (more than double the 2 acres required) and will continue to exceed that standard in 2035 by 1.2 acres. Three workers are expected to relocate as a result of the Java Project. Based on the county's average household size of 3.513 (Kings County 2009), the relocated workers would add about 11 residents to the county population. The addition of 11 residents during operation is far below the number that would be required to drop the amount of parkland below the threshold. Even if all 120 temporary construction workers permanently relocated to Kings County, the additional 422 residents still would not drop the parklands to population ratio below the threshold. Furthermore, because relocation would be temporary, any additions to the Kings County population would also be temporary. Thus, the few workers required at the project site during operations would neither permanently nor significantly contribute to use of existing parks and other recreational facilities in the region, and the Java Project would not cause substantial physical deterioration of recreational facilities. Impacts under this criterion would be less than significant.

As noted in Chapter 1, decommissioning of the Java Project is expected to involve a similar level of activity and duration as construction. Therefore, Project decommissioning would not substantially increase the use of existing neighborhood and regional parks or other recreational facilities and the Project's decommissioning impact would also be less than significant.

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?

NO IMPACT. The Java Project would not include recreational facilities or require the construction or expansion of recreational facilities.

References

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3.16 Transportation/Traffic

Table 3.16-1 Transportation/Traffic Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e. Result in inadequate emergency access?	☐	☒	☐	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

3.16.1 Setting

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California, 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford, immediately east of State Route (SR) 41 at the Java Avenue Intersection (see Figures 1-1 and 1-2 in Chapter 1, “Background Information”).

The area of the Java Project’s effect on transportation and traffic is defined as the immediate Java Project site and larger region (including state and interstate highways), in which equipment and personnel would be transported to the Java Project site. Transportation facilities in the Java Project area and region include Interstate 5 (I-5); SR-41; SR-198; local access roads; bus, pedestrian, and bicycle routes; and aviation facilities. The region evaluated for potential traffic and transportation impacts does not extend beyond the borders of the county.

Highways and Roads

Kings County contains approximately 337 miles of city streets, 956 miles of county roads, 130 miles of state facilities, and 27 miles of interstate highways (Kings County CDA 2010a). Two public use (non-commercial passenger) airports and approximately 67 miles of freight rail lines also are present (KCAG 2014 and Kings County CDA 2010a).

The Kings County Association of Governments (KCAG) serves as the state-designated Regional Transportation Planning Agency (RTPA) and federally-designated Metropolitan Planning Organization (MPO). As part of their responsibilities, the KCAG develops a list of transportation projects as part of a regional transportation plan (RTP). This plan is updated every three years to account for funds and changing conditions (Kings County CDA 2010a).

The following provides a description of important roadways, and if applicable, any associated planned or proposed projects, within the county. Only those roadways that will be used for the Java Project construction and operation are included.

Interstate 5: The Java Project site is located in the vicinity of I-5, a principal interstate highway that serves the high-volume corridors that connect major traffic generators throughout the State of California. I-5 is a four-lane divided freeway with a 75-foot-wide median. The northbound and southbound segments both contain two travel lanes. With approximately 39,500 daily trips near SR-41, I-5 is the most traveled roadway in the county. Approximately 30 percent of these trips currently are made by trucks (Kings County CDA 2010a).

Overall, the vehicle miles travelled for I-5 is expected to increase by more than 9 million miles with 40 percent truck traffic by 2040 in the area of Kings County and surrounding counties (Caltrans 2015b). Long range plans for I-5 within Kings County are shown in Table 3.16-2.

State Highways: SR-41 varies from two to four lanes and has an average annual daily traffic (AADT) volume of between 6,700 (between SR-33 and I-5) and 20,000 (between Hanford-Armona Road and Grangeville Boulevard) (Kings County CDA 2010a). According to the KCAG 2016 Regional Transportation Improvement Program (RTIP), no proposed projects that affect the alignment or configuration of the roadway are planned for the 2016-2017 year along this route within Kings County (KCAG 2015b). Long range plans for this roadway are shown in Table 3.16-2.

SR-198 is also in the vicinity of the Java Project site, approximately four miles north via SR-41. This route serves as an important connection between the Central Coast and the Sierra Nevada Mountains and I-5. It is a designated large truck route and a primary commuter route (KCAG 2014). Similar to SR-41, it also varies between two and four lanes of traffic. This roadway has an AADT of between 7,700 (between Fresno County line and LNAS) and 21,800 (between 18th Avenue and Houston Avenue) (Kings County CDA 2010a). According to the KCAG 2016 RTIP, no proposed projects that affect the alignment or configuration of the roadway are planned for the 2016-2017 year along this route within Kings County (KCAG 2015b). Long range plans for this roadway are shown in Table 3.16-2.

Local Roads: Java Avenue is a private unpaved road that dead-ends into SR-41 across from the Java Project site. Other local roads in the vicinity of the Java Project include Kent and Jersey Avenues. According to the KCAG 2016 RTIP, no proposed projects that affect the alignment or configuration of these roadways are planned for the 2016-2017 year within Kings County (KCAG 2015b).

Table 3.16-2 Long Range State Highway Projects 2021-2035

State Route	Location	Description
I-5	Kern Co. Line to Fresno Co. Line Widen from 4 to 6 lanes	Kern Co. Line to Fresno Co. Line Widen from 4 to 6 lanes
41	Grangeville Boulevard	Construct Interchange
41	SR 198 to Jackson Avenue	Widen to 4 lanes and Construct Interchange
41	Kettleman City to Jackson Avenue Widen from 2 to 4 lanes	Kettleman City to Jackson Avenue Widen from 2 to 4 lanes
41	SR 33 to I-5 Widen from 2 to 4 lanes	SR 33 to I-5 Widen from 2 to 4 lanes
41	Kern Co. Line to SR 33	Kern Co. Line to SR 33
198	At 9th Avenue	Construct Interchange
198	At 13th Avenue/Hanford Armona Road	Reconstruct Interchange
198	At 16th Avenue Construct Overcrossing	At 16th Avenue Construct Overcrossing
198	At 21st Avenue Alignment Construct Interchange	At 21st Avenue Alignment Construct Interchange
198	Fresno Co. Line to LNAS Construct Passing Lanes	Fresno Co. Line to LNAS Construct Passing Lanes
198	At 6th Avenue	Construct Interchange
198	At 2nd Avenue Construct Interchange	At 2nd Avenue Construct Interchange

Sources: KCAG 2014

Kings County utilizes the federal functional classification system, consisting of various types of roadways within its *2035 Kings County General Plan*. These classifications consist of freeways, expressways, urban arterials, urban collectors, urban minor, rural residential collectors, and rural residential minor. The purpose of this system is to describe the intensity and character of the traffic, as well as to assist in determining what types of federal funding a roadway may be eligible to receive (Kings County CDA 2010a). Likewise, the County also has adopted level of service (LOS) standards to evaluate existing operating conditions.

The County uses a LOS threshold for which to gauge acceptable levels of operating standards. This standard is no lower than LOS “E” for urban areas and LOS “D” for rural areas. Each local agency that owns and operates transportation facilities, however, may select a LOS standard more stringent than the minimum LOS standards (Kings County CDA 2010a).

Table 3.16-3 provides roadway descriptions, existing (year 2006) and future (year 2035) traffic volume data, and existing and future LOS, where available, for local and regional roadways that might be used during construction and operation of the Java Project. The roadway segments for I-5, SR-41, and SR-198 listed in Table 3.16-3 include all those within Kings County, even if not in immediate proximity to the Java Project site. All roadway segments in the Java Project vicinity operate at acceptable or better LOS conditions, except for one segment of SR-41, between Jackson Avenue and SR-198 (Kings County CDA 2010a).

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Table 3.16-3 Regional Roadway Characteristics

		2006			2035		
Roadway	**Limits**	**Number of Lanes**	**AADT**	**LOS**	**Number of Lanes**	**AADT**	**LOS**
Interstate 5	Kern Co. Line – Utica Avenue	4	31,500	B	4	49,420	C
	Utica Avenue – State Route	4	32,500	B	4	52,990	C
	State Route 41 – Fresno Co. Line	4	34.500	B	4	48,490	C
State Route 41	Kern Co. Line – State Route 33	2	7,500	C	2	11,550	C
	State Route 33 – Interstate 5	2	6,700	C	2	8,340	C
	Interstate 5 – Bernard Drive	4	9,500	B	2	13,940	D
	Bernard Drive – Quail Avenue	2	7,100	B	2	13,260	C
	Quail Avenue – Nevada Avenue	2	8,300	B	2	10,840	C
	Nevada Avenue – Jackson Avenue	2	8,500	B	2	13,370	C
	Jackson Avenue – State Route 198	2	9,700	C	2	19,340	F
	State Route 198 – Bush Street	4	14,200	B	4	43,840	C
	Bush Street – Houston Avenue	4	18,000	B	4	29,910	C
	Houston Avenue – Hanford-Armona Road	4	18,000	B	4	29,910	C
	Hanford-Armona Road – Grangeville Boulevard	4	20,000	B	4	31,390	C
	Grangeville Boulevard – Fresno Co. Line	4	18,000	B	4	23,330	B
State Route 198	Fresno Co. Line – LNAS	2	7,700	C	4	11,940	A

Table 3.16-3 Regional Roadway Characteristics

		2006			2035		
Roadway	Limits	Number of Lanes	AADT	LOS	Number of Lanes	AADT	LOS
	LNAS – Avenal Cutoff Road	4	14,700	B	4	31, 890	B
	Avenal Cutoff Road – State Route 41	4	18,500	B	4	43,990	C
	State Route 41 – 18th Avenue	4	20,900	B	6	54,820	C
	18th Avenue – Houston Avenue	4	21,800	B	4	58,280	D
	Houston Avenue – 14th Avenue	4	29,000	B	4	67,350	E
	14th Avenue – Hanford-Armona Road	4	32,000	B	4	67,710	E
	Hanford Armona Road – 12th Avenue	4	28,500	B	4	60,250	D
	12th Avenue – 11th Avenue	4	20,700	B	4	59,780	D
	11th Avenue – 10th Avenue	4	19,500	B	4	39,650	C
	10th Avenue – State Route 43	4	19,800	B	4	33,040	B
	State Route 43 – 6th Avenue	4	18,900	B	4	35,110	B
	6th Avenue – Tulare Co. Line	2	19,800	F	4	33,910	B

Source: Kings County CDA 2010a

Kings County strives to maintain a circulation system that provides a variety of safe and efficient transportation alternatives. The roadway system is only one component of this. As such, objectives of the *2035 Kings County General Plan* for roadway elements are intended to facilitate coordination on transportation with the regional authority, to reduce potential environmental hazards (e.g., energy usage, noise, and land use), and to maintain an appropriate LOS and maintenance on existing roadways (Kings County CDA 2010a).

Regulations for transportation facilities are included in Article 13 of the *Kings County Development Code* (Kings County 2016b). These regulations provide for requirements for parking, loading areas, and access driveways. Other regulations pertinent to the movement of vehicles and the design of facilities are included within the 2015 State Vehicle Code and the Caltrans Highway Design Manual (2015a).

Evacuation Routes and Local Emergency Response

Evacuation routes are relied upon during emergency or disaster responses. According to the Health and Safety Element of the *2035 Kings County General Plan*, "Primary Routes" are state highways that can accommodate larger volumes of traffic, and "Secondary Routes" are county arterial roadways that provide critical secondary passages in times of emergency. Both the primary and secondary routes are maintained as priorities within the county (Kings County CDA 2010b).

Primary evacuation routes consist of I-5, Highway 33, Highway 269, Highway 41(also known as SR-41), and Highway 198 (also known as SR-198) (Kings County CDA 2010b). Secondary east-west routes include Excelsior Avenue, Grangeville Boulevard, Houston Avenue, Jackson Avenue, Kansas Avenue, Lacey Boulevard, Laurel Avenue, Quebec Avenue, Utica Avenue, and Virginia Avenue. Secondary north-south routes include 6th Avenue, 10th Avenue, 10th ½ Avenue, 12th Avenue, 14th Avenue, 18th Avenue, 22nd Avenue, and Avenal Cutoff (Kings County CDA 2010b).

The Kings County Fire Department serves the unincorporated areas of the county, including the four unincorporated communities of Armona, Home Garden, Kettleman City, and Stratford (Kings County CDA 2010b). The Kings County Fire Department operates 10 fire stations and also has a headquarters office. The Java Project site likely would be served from the south by Kings County Fire Department Station 10, located at 20200 Main Street in the community of Stratford (Kings County Fire n.d.). The response time from Station 10 is approximately 4 to 5 minutes, as response times within 5 miles of a station are generally within this timeframe (Kings County CDA 2010b). The Java Project site also may be served from the north by Lemoore Station 7, at 1285 South Lemoore Avenue in the City of Lemoore (Kings County Fire n.d.). The response time from Station 7, around 5 miles from the Java Project site, also would be approximately 5 minutes (Kings County CDA 2010b).

The *2035 Kings County General Plan* includes a goal to "ensure maintenance and upkeep of key emergency access routes, and critical facilities and infrastructure to minimize delays or disruptions in emergency response" (Kings County CDA 2010b).

Waterways and Railroads

Waterways in the Java Project area or vicinity are not used for transportation purposes. Waterways in the area primarily comprise lined and unlined ditches used for irrigation and agricultural water delivery.

Rail service within Kings County includes Amtrak passenger rail service and freight rail service. However, railroads are not located within the Java Project site. Passenger rail service is serviced by two rail stations, one located in Hanford and one in Corcoran. Both stations are used for other methods of transportation, as well (Kings County CDA 2010a).

Freight rail utilizes two lines within the county. The north/south rail line service is the Burlington Northern & Santa Fe (BN&SF) Railway line that runs from Bakersfield in the south to Roseville in the north. The east/west rail line service is the San Joaquin Valley Railroad (SJVRR), which travels from Visalia in the east to Huron in the west (Kings County CDA 2010a). The SJVRR right-of-way has also been identified as a strategic transportation corridor that should be preserved for possible future passenger rail, light rail, or non-motorized transportation development (Kings County CDA 2010a).

The nearest railroad is the east-west Union Pacific/SJVRR, 4.5 miles north of the Java Project site (Kings County CDA 2010a).

The primary objective within the *2035 Kings County General Plan* is to ensure that rail lines are maintained for future use. This is to be accomplished by supporting the continued operation of passenger and freight services within the county (Kings County CDA 2010a).

Aviation

Public, military, and private aviation facilities are present, with the Hanford Municipal Airport and Corcoran Airport serving as public facilities and the Naval Air Station Lemoore as a military facility. The County is responsible for the regulation of the public facilities. The *Kings County Airport Land Use Compatibility Plan* was created in 1994; it was intended to establish procedures and criteria for the county and for the cities of Corcoran and Hanford; it established airport influence areas (Kings County Board of Supervisors 1994). As depicted in the *2035 Kings County General Plan* Figure LU-5, the public airport influence areas generally include Hanford Municipal, Unincorporated Community Districts, and Cities, Base, and Rancheria (Kings County CDA 2010c). As noted in Section 3.10.1, the Java Project site is not within any airport influence zones (Kings County 2010a). The nearest airport influence zone, associated with the Hanford Municipal Airport, is more than 10 miles northeast of the Java Project site.

Since that time, the County has participated in the development of the *Central California Aviation System Plan* (CCASP). The purpose of this plan was to identify issues impacting the aviation community. Profiles for each participating airport were created, along with an action plan to meet existing and future needs (King County CDA 2010a).

The Hanford Municipal Airport is over 10 miles to the northeast of the Java Project site, and the airstrip at NAS Lemoore is located over 8 miles northwest of the Java Project site (the NAS southern boundary is within 3.3 miles of the Java Project site). In addition, the site is within proximity of two private airstrips. One is located at 19th Avenue and Kent Avenue (Blair Air and Ground), and a second is at 21st Avenue and Lansing Avenue (Jones Farm) (Kings County CDA 2010b).

The Hanford Municipal Airport is the only city-owned air facility in the county and has the most traffic. All types of general aviation aircraft use the facility. The average daily aircraft operation in 2005 was approximately 38 (King County CDA 2010a). The City of Hanford adopted its airport master plan in 2010. Day-to-day operation and maintenance of the airport is provided by the Hanford Department of Public Works and airport manager. Access to the airport is from Hanford-Armona Road, which ends at the airport (City of Hanford 2010). Of the airports in the county, only Hanford airport generates significant air traffic for the county's circulation system (Kings County CDA 2010a).

The Corcoran Airport is a basic utility airport. Most of the aircraft utilizing this airstrip are crop dusters and single-engine propeller planes. This airport has the second highest public traffic rate in the county (Kings County CDA 2010a).

Naval Air Station (NAS) Lemoore is located in the northwestern part of the county, which also includes a military influence area (MIA). As discussed in Section 3.10, "Land Use and Planning," communities surrounding NAS Lemoore have engaged in a Joint Land Use Study (JLUS) process to further ensure that uses and operations at the base do not conflict with or encroach upon uses in the surrounding region (Kings County CDA 2010c).

In 2010, NAS Lemoore prepared an update to the installation's Air Installation Compatible Use Zone (AICUZ) study; and in 2011, NAS Lemoore in conjunction with local community partners prepared the aforementioned JLUS. The AICUZ helps to identify areas of potential conflict between the base and surrounding community by quantifying and depicting aircraft noise zones and accident potential zones (APZs). The JLUS provides direction for compatible land use planning. The Java Project site is not within the APZ of NAS Lemoore, as identified in the AICUZ and JLUS reports (U.S. Navy 2010; NAS Lemoore 2011).

Private airstrips and aircraft in Kings County primarily are related to agriculture, either for crop dusting or private transportation. Airports and heliports, including crop dusting strips and accessory structures intended for commercial agricultural uses, are permitted within Kings County as a conditional use (Kings County CDA 2010b). Kings County regulations permit private-use noncommercial airports and heliports only in areas separated from urban concentrations for public safety that are designated General Agriculture (Kings County CDA 2010b).

The primary goal of Kings County is to coordinate land use, environmental, and safety hazard considerations to ensure the long-term use of the airports and military installations. This goal is to be accomplished by promoting compatible land use near these facilities and ensuring that local regulations provide for this (Kings County CDA 2010a, 2010b). A second goal is to designate the airport influence zones to provide public safety protections (Kings County CDA 2010b).

An overlay zone for the airport is included as part of the *Kings County Development Code*. The overlay zone is provided to reduce potential conflicts around the Hanford Airport. As part of this overlay, restrictions are placed on residential development within particular noise zones. No restrictions are provided within its defined Zone D, Other Airport Environs (Kings County 2016a), and the Java Project site is located beyond this zone.

Alternate Modes of Transportation

Alternate modes of transportation in addition to air travel in the Java Project vicinity include bus, pedestrian, and bicycle travel. Kings Area Rural Transit (KART) is Kings County's public rural and urban transportation service provider that provides countywide bus service. The Corcoran Area Transit (CAT) also provides public transportation service, but it has limited service within the Corcoran area (Kings County CDA 2010a).The only bus route in the Java Project vicinity runs along SR-41 between Hanford and Avenal (KART 2015).

Plans within the county include modifications to the Hanford Route 7; additions to Route 9 and 10 within Hanford; the addition of Sunday Service in Hanford; and introducing local fixed routes in Lemoore and Corcoran (KCAG 2015a). These represent potential service modifications in the short-term (i.e., prior to 2019).

Pedestrian facilities within Kings County include sidewalks, paths, and over-crossings. The SJVRR right-of-way has been identified as a viable option for both pedestrians and bicyclists. The construction for this facility began in Lemoore to provide access along Hanford-Armona Road (Kings County CDA 2010a).

Although several bicycle routes occur in the county, there are no bike routes along the roads immediately adjacent to the Java Project site (KCAG 2014). Furthermore, within Kings County, all state routes are

open to bicycle travel as shared right-of-way except for closed freeway segments of SR 198 and SR 41, which are two roadways within the vicinity of the Java Project site (KCAG 2011). The *2035 Kings County General Plan* and the regional plan for Kings County do not indicate planned bicycle facilities within the vicinity of the Java Project site (Kings County CDA 2010a; KCAG 2011).

As part of the *2035 Kings County General Plan*, the County established a number of goals to promote public and non-motorized transportation options. Public transportation is to be promoted by coordinating with public transportation providers, ensuring adequate stops are available to board buses, and encouraging the use of car/vanpools. Non-motorized goals are intended to enhance existing pedestrian and bicycle facilities through traffic calming and the integration of infrastructure into designs within neighborhoods (Kings County CDA 2010a).

3.16.2 Environmental Impacts and Mitigation Measures

The impact criteria below are based on Appendix G from the CEQA guidelines and on the Kings County impact criteria.

a. Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

LESS THAN SIGNIFICANT WITH MITIGATION. Transportation goals, objectives, and policies in Kings County generally are established in the *2035 Kings County General Plan* and the *KCAG 2014 Regional Transportation Plan* (RTP). Both plans outline policies to ensure a safe and efficient transportation system that incorporates all modes of transportation. In general, the Java Project would not interfere or detract from these plans due to the minimal additions/changes needed to the existing transportation system.

The temporary changes needed for construction (and decommissioning) would consist of the addition of access driveways to allow ingress/egress onto the Java Project site and internal circulation. Two to five acres of temporary parking spaces, office facilities, and staging would be needed, as well. As the primary effects to the local transportation system would occur during construction (and decommissioning), the effects would be temporary. For operation, these impacts would be greatly limited due to the small work force consisting of a 3-person crew and when needed, 30 operational workers needed for major maintenance activities. The footprint needed for these activities would largely be limited to the Java Project site and its access driveways.

With regard to county and state regulations concerning traffic management, the Applicant has stated that they would consult with Kings County regarding delivery schedules and lane closures in order to implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements. Although the heavy equipment and materials needed for site preparation and construction would generally be the same as those typically required for road construction projects and would not pose unique transportation considerations, in order to ensure that impacts are less than significant, MM TR-1 would be required.

> **MM TR-1: Traffic Safety Measures.** As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with Caltrans and/or the County prior to initiation of construction and decommissioning activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.) and 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 on, and delays to or safety concerns for other users 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 delivery of all construction-related equipment and materials.
   iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods.
   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.

With implementation of MM TR-1, the Java Project would comply with all applicable regulations regarding traffic management.

In addition, access driveways for the Java Project also would be consistent with state regulations, as well as local regulations. Access driveways would be constructed in accordance with California Department of Transportation (Caltrans) specifications, and the turn pockets would be constructed with 6 to 8 inches of aggregate base course according to these standards.

Furthermore, the Java Project would be consistent with county policies regarding the LOS for local roadways. During the eight month construction period, during peak construction, there would be a maximum of 300 trips per day. The potential impact of the additional traffic is discussed with additional detail under item “b” below. The traffic generated by the Java Project would not conflict with an established measure of effectiveness, and it would not result in a degradation of its existing LOS.

The only public transit route within proximity to the Java Project is along SR-41. The closest stops are within Lemoore (1.34 miles from the Project site) and Stratford (2.05 miles from the Project site), and therefore, they would not be affected by construction, operation, or decommissioning of the Java Project. Future plans as noted in the KCAG 2015 Transit Development Plan, do not include expansion of this route (KCAG 2015a). Likewise, the Java Project would not impede the County from promoting public transportation or coordination of efforts with local and regional agencies.

Pedestrian and bicycle facilities are not located within the Java Project vicinity. Plans for future development of these facilities do not indicate potential conflicts with the Java Project site, as they generally focus on facilities located within the urban areas of the county. Due to the relative position of the Java Project site as compared to the location of mass transit and non-motorized transportation facilities, no impacts would be anticipated to occur to these facilities.

The Java Project would not interfere with the County's goals to coordinate on transportation with the regional authority, to reduce potential environmental hazards, or to maintain its existing roadways (Kings County CDA 2010a). It also would not interfere with the operation of existing or planned facilities. In this manner, the Java Project would not conflict with an applicable plan, policy, or regulation for Kings County. With the implementation of MM TR-1, impacts would be less than significant.

b. Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

LESS THAN SIGNIFICANT WITH MITIGATION. The Java Project would not conflict with any applicable congestion management program, as it would not cause a significant increase in traffic volumes on area roads due to the nature and scope of the construction, operation, and decommissioning activities required (e.g., limited grading, delivery of pre-constructed panels to the sites, etc.). Traffic resulting from construction activities and eventual decommissioning would be temporary and may occur along area roadways as workers and materials are transported to and from the Java Project site. Operational activities associated with traffic and transportation facilities are limited, such that any potential impacts would be negligible.

During peak construction, a maximum of 120 worker roundtrips and 180 roundtrip truck trips (i.e., 300 trips maximum) per day would be required. Similar traffic would be experienced during decommissioning in which delivery/removal of materials would occur. Slow moving trucks could result in temporary congestion near Project entrances and may briefly interrupt the traffic flow or create the potential for slowed traffic due to turning movements. However, due to the number of truck trips that would be required, this would represent a small proportion of the overall traffic along SR-41 and other proximate roadways. With the implementation of MM TR-1, the impact would be less than significant.

The Circulation Element of the *2035 Kings County General Plan* specifies that "the LOS threshold is identified [such] that the 'minimum' LOS standard within the county shall be no lower than LOS 'E' for urban areas and LOS 'D' for rural areas" (Kings County CDA 2010a). As the total number of potential trips generally does not exceed 300 trips per day during the peak construction period, the LOS would not change for any of the roadways used for the Java Project even in the unlikely event that all Project traffic were to use a particular roadway on a given day. Even in this worst case scenario, the addition of these vehicles would not exceed LOS thresholds (see Table 3.16-4).

As shown in Table 3.16-4, none of the affected roadway segments would be subject to a change in LOS, or an LOS impact. Even if the roadway segment with the least amount of traffic (i.e., the lowest AADT) were to handle all of the traffic in one day at the peak construction period, the temporary increase would be 4.5 percent (300 trips out of a total 6,700 at SR-41 between SR-33 and I-5). Due to the higher volumes of traffic, all other roadways would be subject to lower proportional temporary increases in overall traffic volumes. This increase in traffic volume, therefore, would represent a less-than-significant impact on the operational effectiveness of the affected roadways.

Long-term operation of the Java Project would require minimal use of transportation corridors in the area. Panel washing and maintenance of the Java Project would require up to 30 workers for several days for up to two times per year. This amount of traffic would be minimal and would not cause LOS standards to change and would not cause congestion on county roads. Intermittent operations and maintenance traffic would be similar to traffic levels expected for agricultural operations. Therefore, impacts under this criterion would be less than significant with mitigation.

Table 3.16-4 Impact of Project Construction Traffic on the Surrounding Roadway System

		2006			AADT Threshold	Change in LOS – Addition of 300 Trips
Roadway	Limits	Number of Lanes	AADT	LOS		
Interstate 5	Kern Co. Line – Utica Avenue	4	31,500	B	39,600	No
	Utica Avenue – State Route	4	32,500	B	39,600	No
	State Route 41 – Fresno Co. Line	4	34,500	B	39,600	No
State Route 41	Kern Co. Line – State Route 33	2	7,500	C	13,800	No
	State Route 33 – Interstate 5	2	6,700	C	13,800	No
	Interstate 5 – Bernard Drive	4	9,500	B	29,300	No
	Bernard Drive – Quail Avenue	2	7,100	B	13,800	No
	Quail Avenue – Nevada Avenue	2	8,300	B	13,800	No
	Nevada Avenue – Jackson Avenue	2	8,500	B	13,800	No
	Jackson Avenue – State Route 198	2	9,700	C	13,800	No
	State Route 198 – Bush Street	4	14,200	B	29,300	No
	Bush Street – Houston Avenue	4	18,000	B	29,300	No
	Houston Avenue – Hanford-Armona Road	4	18,000	B	29,300	No
	Hanford-Armona Road – Grangeville Boulevard	4	20,000	B	29,300	No
	Grangeville Boulevard – Fresno Co. Line	4	18,000	B	29,300	No
State Route 198	Fresno Co. Line – LNAS	2	7,700	C	13,800	No
	LNAS – Avenal Cutoff Road	4	14,700	B	29,300	No
	Avenal Cutoff Road – State Route 41	4	18,500	B	29,300	No
	State Route 41 – 18th Avenue	4	20,900	B	29,300	No
	18th Avenue – Houston Avenue	4	21,800	B	29,300	No
	Houston Avenue – 14th Avenue	4	29,000	B	29,300	No
	14th Avenue – Hanford-Armona Road	4	32,000	B	39,600	No
	Hanford Armona Road – 12th Avenue	4	28,500	B	29,300	No

Table 3.16-4 Impact of Project Construction Traffic on the Surrounding Roadway System

		2006			AADT Threshold	Change in LOS – Addition of 300 Trips
Roadway	Limits	Number of Lanes	AADT	LOS		
	12th Avenue – 11th Avenue	4	20,700	B	29,300	No
	11th Avenue – 10th Avenue	4	19,500	B	29,300	No
	10th Avenue – State Route 43	4	19,800	B	29,300	No
	State Route 43 – 6th Avenue	4	18,900	B	29,300	No
	6th Avenue – Tulare Co. Line	2	19,800	F	16,900+	No

Source: Kings County CDA 2010a.
Notes: AADT = Average Annual Daily Traffic; LOS = Level of Service
AADT Threshold refers to the highest traffic count for the level of service noted. Once the traffic exceeds this level, the LOS drops to the next grade. The thresholds are based on values noted in Table C-3 of the Kings County Comprehensive Plan, Circulation Element, while the AADT is based upon that provided in Table C-4 (Kings County CDA 2010a).

c. Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

LESS THAN SIGNIFICANT. The Java Project site is not located within such proximity to public airports or to NAS Lemoore to affect air traffic patterns or to require a change in location that would result in substantial safety risks. The Hanford Municipal Airport is located over 10 miles to the northeast of the Java Project site, while NAS Lemoore airstrip is over 8 miles to the northwest of the site. The Java Project is also not within an airport influence area (based upon Figure LU-5 in the *2035 Kings County General Plan*) (Kings County CDA 2010c). While located within one mile of a private airstrip at South 19th Avenue and Kent Avenue, the Java Project would have no impact on their air traffic patterns and would not require a change in location. These airstrips often are used for agriculture-related crop duster landing and maintenance facilities and often do not have set flight patterns (Kings County CDA 2010b).

Regarding the effect of glare or glint on air traffic due to sunlight reflection, the Java Project would not result in a safety risk. As indicated in the 2011 JLUS for NAS Lemoore, the installation reviewed four potential solar facilities and found them to have no conflict with flight operations. One of the four projects was to be located immediately adjacent to the southern boundary of NAS Lemoore (NAS Lemoore 2011). Therefore, similar to other solar projects, the Java Project also would not create a substantial source of glare. Solar panels would be dark blue or black in color and would be made of light-absorbing material. Therefore, the potential for the Java Project to create a source of glare affecting pilots would be less than significant; this is also discussed in Section 3.8, "Hazards and Hazardous Materials."

The Java Project, therefore, would have a less than significant impact under this criterion.

d. Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

LESS THAN SIGNIFICANT WITH MITIGATION. The Java Project does not include design features that would increase hazards or incompatible uses, because it would not include construction of any streets or roads beyond access driveways that would be included on the Java Project site. Potential entrances to the Java Project site would be built on SR-41 or from Kent Avenue in accordance with Kings County improvement standards. These new entrances would result in turning movements in and out of the Java Project site and thereby create some potential for interaction with vehicles travelling along the state route or Kent Avenue; however, line-of-sight would be clear due to the flat terrain and absence of visual

obstructions from either roadway. Site construction and operation vehicles would be of a type consistent with agricultural and other vehicles currently using roads affected by the Java Project. In addition, MM TR-1 would reduce any impact associated with safety concerns by requiring that the applicant consult with Caltrans and/or the County, ensuring that equipment does not block emergency access. Therefore, with the implementation of MM TR-1, the impact would be less than significant.

e. Would the Project result in inadequate emergency access?

LESS THAN SIGNIFICANT WITH MITIGATION. The Health and Safety Element of the *2035 Kings County General Plan* (Kings County CDA 2010b) identifies two primary evacuation routes, SR-41 and SR-198, and two secondary evacuation routes, Avenal Cutoff Road and Kansas Avenue, in the vicinity of the Java Project site. These routes would remain operational through construction, and emergency access would not be limited by construction activities at the Java Project site. The applicant would coordinate any potential road closures in advance per MM-TR-1 and would ensure accessibility and ground clearance for emergency vehicles. Interior circulation for emergency vehicles also would be maintained during all weather conditions.

The Java Project would contribute a relatively small increase (less than 4.5 percent of existing AADT) in traffic along these routes but would not result in inadequate emergency access (see Table 3.16-4, which indicates that no changes in LOS would occur). Therefore, impacts under this criterion would be less than significant.

f. Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

NO IMPACT. The Java Project represents a remote land use that would not require workers' use of public transit or non-motorized transportation facilities during both construction and operation. Therefore, the Java Project would not conflict with any applicable policies, plans, or programs supporting alternative transportation or decrease the performance or safety of such facilities. There would be no impact under this criterion.

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3.17 Utilities and Service Systems

Table 3.17 Utilities and Service Systems Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

3.17.1 Setting

This section discusses utilities and service systems in the vicinity of the Java Project, including water, wastewater, storm water, and solid waste systems.

The Java Project would occupy approximately 96 acres of disturbed agricultural land in an unincorporated area of Kings County, California. The area is 1.34 miles southwest of the City of Lemoore, immediately east of SR-41, between Kent and Jersey Avenues (see Figures 1-1 and 1-2 in Chapter 1, "Background Information").

Utilities and Public Service Systems

Wastewater

The Java 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. Since the Java Project would include no permanent employees stationed at the site, no permanent wastewater collection and treatment facilities are

planned. Instead, the sanitary needs of workers visiting the site for routine maintenance would be provided by portable chemical toilets that would be serviced by an outside contractor.

Potable Water and Water Service

The only entities to provide water service in the unincorporated area of Kings County are either Community Service Districts (CSDs) or Public Utilities Districts (PUDs). Outside of CSDs and PUDs water service is provided by individual domestic and agricultural wells.

The applicant has entered into a service contract with a local landowner who would provide construction water from existing wells to be primarily used for dust suppression, soil compaction, concrete hydration and other miscellaneous activities requiring non-potable water during construction. Potable water for drinking and similar needs during construction would be trucked in from offsite (e.g., bottled water).

Water for operation activities would be purchased from a nearby property owner or water district with existing water entitlements, and/or produced from a new onsite well. Water would be used for ongoing maintenance, including cleaning, of the solar panels. It is anticipated that the solar PV panels would be washed up to two times per year to ensure optimum solar absorption by removing dust particles and other buildup.

Solid Waste/Landfills

Solid waste collection and disposal service in Kings County is provided by the Kings Waste and Recycling Authority (KWRA). The KWRA was formed in 1989 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 (Kings County CDA 2010b).

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 20 miles southwest of the Java Project site. The B-17 Landfill Unit has a maximum disposal rate of 2,000 tons per day, and currently accepts an average of 1,350 tons per day (Waste Management 2016). The total permitted capacity of B-17 Landfill Unit is 18.4 million cubic yards, with a remaining capacity of 17.5 million cubic yards, as of March 2012. The facility's estimated closure year is 2052, with the actual closure date depending on the rate of fill (CalRecycle 2016).

Water Conservation

Goals, policies, and objectives for water resource protection and conservation, including measures addressing reliable, long-term water supply, water supply for sustainable agriculture, watershed protection, and floodway protection were adopted by Kings County and are presented in the Resource Conservation Element of the *2035 Kings County General Plan* (Kings County CDA 2010b).

The Kings County Water Commission acts as an advisory agency to the Kings County Board of Supervisors on matters involving the development, use, and conservation of water resources, both as to quantity and quality, for agricultural, commercial, industrial, domestic, and recreational uses. The Commission advises and reports to the Board concerning water matters which are proposed or enacted under State or Federal legislation or regulation affecting Kings County. Due to recent concerns regarding the California drought, the Commission's recent activities have been focused on groundwater sustainability planning (Kings County Water Commission 2015). Support for Integrated Regional Water Management Plans and other joint management efforts of surface water and groundwater supplies should continue to increase the reliability of surface and groundwater supplies for water users within Kings County (Kings County CDA 2010b).

No Urban Water Management Plans apply to the Java Project area.

State Water Project

Surface water supplies serving mainly agricultural users in the Project area are provided through the State Water Project (SWP). Water users in the Project region also obtain water from local groundwater wells, which withdraw water from the Tulare Lake Sub-basin. During periods of reduced water supply to the SWP, local users withdraw more volume from groundwater sources, resulting in overdraft conditions in the underlying aquifer.

Project Water Demand (Construction and Operation)

As discussed in Section 3.9, "Hydrology and Water Quality," the Java Project is estimated to require 33,000 gallons per year (equivalent to approximately 0.1 acre-foot) of water during operation, which would primarily consist of solar PV panel washing. Panel washing would take place approximately two times per year, primarily during summer months.

Project construction would require approximately 15 acre-feet (af), less than 2 af per month on average, or approximately 20,000 gallons per day, for activities such as dust control and grading compaction, over the estimated 8-month construction period.

Water required for construction and operation would be supplied from existing wells near the property, from a new well to be drilled on the Java Project site, or from a local water district.

3.17.2 Environmental Impacts and Mitigation Measures

Utilities and Service Systems

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

NO IMPACT. Waste Discharge Requirements refers to standards applied to local wastewater treatment facilities by the Regional Water Quality Control Board for quantities and quality of wastewater discharge. There are no plans to install a centralized wastewater treatment facility for the Project, so no discharge requirements would apply. Individual septic systems are regulated under the Kings County Plumbing Code, which sets forth design criteria and standards for their installation. Since the planned solar facilities would have no permanent staff on-site, no permanent wastewater facilities would be installed. When workers are scheduled to be on site for extended periods, such as during panel cleaning cycles, sanitary needs would be provided by portable chemical toilets that would be serviced by an outside contractor. Therefore, the Project would result in no impact regarding exceedance of wastewater discharge requirements.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

NO IMPACT. As discussed in Section 1.8.4, during the construction phase of the Java Project, untreated groundwater would be obtained from a local landowner from existing well on a nearby property to be primarily used for dust suppression, soil compaction, concrete hydration and other miscellaneous activities requiring non-potable water during construction. As discussed in Section 1.8.3, water for operation activities would be purchased from a nearby property owner or water district with existing water entitlements, and/or produced from a new onsite well, for maintenance activities and panel cleaning. During construction, project operations, and decommissioning, drinking water would be provided by bottled water delivered by truck. Because the Project would not require large quantities of

treated water and would not be a source of large quantities of wastewater, new or expanded water or wastewater treatment facilities would not be required.

As discussed under item 'a' above, no permanent staff would be stationed at the Project site, so no permanent wastewater facilities would be needed or installed for the Project. In addition, the applicant estimates that up to three workers could permanently move to the Project area. These employees could reside anywhere in Kings County. The addition of three workers and their families to the overall population of Kings County would result in a negligible increase in County residents. Thus, the existing water and wastewater treatment facilities in the County would be sufficient to handle the needs of the Project's permanent workforce.

Since no new or expanded water or wastewater treatment facilities are planned or required for the Project, the Project would result in *no impact* relative to the construction of water or wastewater treatment facilities.

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

NO IMPACT. No new stormwater drainage facilities are planned to be constructed for the Java 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, and the Project would result in no substantial modification of existing site grades. The Project would introduce very few structural elements with impervious surfaces that would impede direct percolation of rainwater into the soil. The equipment pads and small parking areas would result in less than 2 percent impervious surface coverage of the site, with over 90 percent of the site retained in vegetated cover and the rest of the site 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 project would not require the construction of new stormwater drainage facilities. As such, the project would result in no impact relative to construction or expansion of stormwater drainage facilities.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

LESS THAN SIGNIFICANT. Construction of the Java Project would require small quantities of water, primarily for dust control and fire protection, and operation of the Project would require small quantities of water for panel washing as discussed above. Water would be obtained from an offsite well, a new onsite well, or a local water district. The applicant might also obtain water from a municipal provider's existing entitlements. Due to the relatively small quantities of water required (less than 2 af per month during construction and 0.1 af per year during operation), sufficient water supplies would be available to support both construction and operation. Currently, the wells from which the applicant intends to procure water produces a sufficient amount of water to cover the construction needs of a much larger PV project. The adjacent solar PV project (the Henrietta Project) would be completed and operational by the time the Java Project begins construction. Therefore, it is expected that this existing well would be sufficient to produce the smaller quantities of water required for the Java Project. Therefore, impacts under this criterion would be less than significant.

e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

NO IMPACT. As discussed above, the Java Project's wastewater needs would be provided by portable chemical toilets and would not require the service of a wastewater treatment provider. Therefore, the project would have no impact on the treatment capacity of a wastewater treatment provider.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

LESS THAN SIGNIFICANT. Waste from construction and operation of the Java Project would be disposed of at MSW Landfill B-17, in Kettleman City, California. The landfill's estimated closure year is 2052, dependent on the rate of fill. Solid waste would be generated at the Java Project primarily during construction and would consist of unused materials and byproducts of construction activities. The Java Project would have a less than significant impact on Landfill B-17 because the Java Project would generate only a relatively small amount of construction waste that would easily be accommodated by the existing landfill, which currently has a maximum disposal rate of 2,000 tons per day and only accepts an average of 1,350 tons per day. As of March 2012, the facility had a remaining capacity of 17.5 million cubic yards. The applicant has estimated that the Java Project would produce 10 cubic yards of solid waste for every MW; therefore, the Project would produce a maximum of 150 cubic yards of solid waste during construction. In addition, Construction waste would be sorted at the KWRA Material Recovery Facility and Transfer Station prior to being disposed of at the landfill; any recyclable materials would be taken out prior to the disposal of the remainder of the waste. Java Project waste disposal would have a minimal impact on the capacity of MSW Landfill B-17 and would not require the development of new or expanded landfills. Therefore, impacts under this criterion would be less than significant.

g. Comply with federal, state, and local statutes and regulations related to solid waste?

NO IMPACT. The Java Project would comply with the California Integrated Waste Management Act of 1989 (AB 939), which requires each city and county in California to prepare, adopt, and implement a Source Reduction and Recycling Element. Policies pertaining to solid waste, source reduction, and recycling are identified in the Source Reduction and Recycling Element (SRRE) and the Household Hazardous Waste Element (HHWE) of the Kings County Integrated Waste Management Plan. The KWRA serves all County unincorporated areas, and the Cities of Corcoran, Hanford and Lemoore. Municipal waste generated in these areas are first directed to the KWRA facility and then transferred to the Chemical Waste Management, Inc. Kettleman Hills Facility which operates both municipal waste and hazardous waste landfills at their site located west of Interstate 5 along State Route 41(Kings County CDA 2010a).

As described above, the applicant has estimated that the Project would generate a maximum of 150 cubic yards of solid waste during construction. As described above, materials would be disposed of at MSW Landfill B-17, in Kettleman City, California, which is permitted by Kings County and inspected monthly by the Kings County Health Department, Environmental Health Services Division. Some construction waste would be recycled at the KWRA Material Recovery Facility and Transfer Station as possible, prior to the remainder of the waste being disposed of at MSW Landfill B-17. Any hazardous materials and wastes would be recycled, treated, and disposed of in accordance with federal, state, and local laws. Therefore, there would be no impacts under this criterion.

References

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3.18 Mandatory Findings of Significance

Table 3.18-1 Mandatory Findings Of Significance Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
A. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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)?	☐	☐	☒	☐
C. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Project Design Features

To the extent possible and as described in Section 1.8, “Description of the Project,” the Java Solar Project was designed to minimize potential environmental impacts. Table 1-1 in Section 1.8.8, “Project Design Features,” includes project structural elements and practices designed to reduce the environmental impacts of the proposed project.

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

LESS THAN SIGNIFICANT WITH MITIGATION. Implementation of the mitigation measures (MMs) described throughout Section 3.4, “Biological Resources,” would be sufficient to protect special status plant and animal species, as well as other common wildlife, found in the Project area, and would ensure that potential impacts are less than significant. No special status plant species were observed or are expected to occur on the project site.

Several special status bird species, such as Swainson’s hawk, northern harrier, Peregrine falcon, and burrowing owl, have a moderate potential to occur within the project site. Special status bird species and nesting birds could be impacted during construction activities; however, potential impacts would be reduced to less than significant through the implementation of MM BIO-1, MM BIO-2, MM BIO-3, and MM AQ-1.

The Project site does not contain suitable habitat for any special status mammals, and no special status mammals were present onsite during field surveys. However, in the unlikely event that Tipton or Fresno kangaroo rat, San Joaquin kit fox, or American badger occur on the project site, implementation of MM BIO-1 and MM BIO-4 would ensure that impacts on kit fox and American badger would be less than significant.

Although no cultural resources sites were identified during surveys associated with the Java Project and agricultural activity has disturbed the site surface, two isolated surface specimens were identified, recorded, and collected, including a human cranial fragment (ASM 2015). Therefore, construction crews could discover cultural resources during ground-disturbing activities. However, implementation of MM CR-1, MM CR-2, MM CR-3, MM CR- 4, and MM CR-5, as discussed in Section 3.5, "Cultural Resources," would reduce the potential for impacts on historical, archaeological, and paleontological resources during project construction. Therefore, impacts under this criterion would be less than significant.

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 WITH MITIGATION. The cumulative analysis is based on consideration of past, present, and probable future projects in the vicinity of the Java Project. The projects considered in the cumulative analysis include those that would be constructed concurrently with the Project and those that would be in operation at the same time as the Project. The cumulative list was compiled using data provided by the Kings County Community Development Agency.

The cumulative projects considered in this analysis are limited to projects that would result in similar impacts as the Java Project due to their potential to collectively contribute to significant cumulative impacts, as well as other development projects that would be located in the vicinity of the Java Project site. The cumulative projects considered are provided below, in Table 3.18-2 and Table 3.18-3.

Table 3.18-2 Pending, Approved, and Completed Solar Projects

Project	Distance from Java(Miles)	Acreage	Generating Capacity (MW)	CUP Status / Construction Schedule
2275 Hatteson	2.7	15.7	1.83	CUP filed but not approved. There is no recent activity on this project, and it is not likely to be constructed during the timeframe of the Java Project.
American Kings	3.75	978	125	CUP under review. CUP was approved in 2010, and an Amendment/Extention/Addendum was approved by the Planning Commission on June 6, 2016. Subsequently, the decision was appealed to the Board of Supervisors on June 13, 2016, and the Board has not yet scheduled an appeal hearing. Nonetheless it is assumed that this project could be constructed during the same timeframe as the Java Project.
Aurora Solar	2	186	20	No CUP to date. There is no recent activity on this project, and it is not likely to be constructed during the timeframe of the Java Project.

Table 3.18-2 Pending, Approved, and Completed Solar Projects

Project	Distance from Java(Miles)	Acreage	Generating Capacity (MW)	CUP Status / Construction Schedule
Avenal Park	23	86.29	9	Constructed.
CED Corcoran Solar 2	14	124	19.75	Constructed
CED Corcoran Solar 3	14	138	20	Constructed
Corcoran	14	228	20	Constructed
Corcoran Irrigation District Solar Project	16	200	20	Constructed
Gales 3 MW Solar Project	15.5	22	3	CUP Approved. There is no recent activity on the project, and this project may not be constructed. However, because this project has an approved CUP, it is assumed that the Gales 3 MW Solar Project could be constructed during the timeframe of the Java Project.
Grangeville LLC	9	200	20	CUP Approved. There is no recent activity on this project, and this project may not be constructed due to Farmland Security Zone issues. Due to these ongoing issues, this project is not likely to be constructed during the timeframe of the Java Project.
Hanford 12	11	19	3	Constructed
Kansas	0.45	200	20	Constructed
Kansas South	0.6	230	20	Constructed
Kent South	5	200	20	Constructed
Kettleman PV Solar Farm Project	14	220	20	Under construction. This project may still be under construction during the timeframe of the Java Project.
Lemoore 14	1.6	60.39	8	CUP Approved. This project may be constructed during the timeframe of the Java Project.
Lincoln	.5	93	15	Constructed
Mustang	5	1422	160	Under construction. This project may still be under construction during the timeframe of the Java Project.
Mustang 2	3	2459.15	150	CUP 15-05 filed but not approved. This project may be constructed during the timeframe of the Java Project.
Orion	5	200	20	Under construction.
Quay Valley Solar One	25	1500	150	No CUP To Date. No recent activity. This project is not likely to be constructed

Table 3.18-2 Pending, Approved, and Completed Solar Projects

Project	Distance from Java(Miles)	Acreage	Generating Capacity (MW)	CUP Status / Construction Schedule
				during the timeframe of the Java Project.
Sand Drag	23	240	19	Constructed
Sun City	23	180	20	Constructed
SunPower Henrietta	1.2	836	136	Constructed
Westside Solar	5	287	22	CUP Approved. This project would be constructed during the timeframe of the Java Project.
Totals		**10,420.67**	**1,056.59**	

Source: Roper, Sandy 2016; Kings County CDA 2016

The Westlands Water District released a Notice of Preparation of Draft EIR for the Westlands Solar Park Master Plan in 2013. The Westlands Solar Park would include individual solar projects on 24,000 acres of land managed by the Westlands Water District and is expected to be completed by 2025 (WWD n.d.); however, no CUPs have been filed with Kings County. Therefore, this project is not pending and is not considered part of the baseline.

Table 3.18-3. Pending, Approved, and Completed Non-Solar Projects

Project	Distance from Java(Miles)	Estimated Construction Schedule
Tri Cal Pesticide	13	CUP Approved. Tenant improvements in existing building. Construction completed. Therefore, this project is not considered in the cumulative analysis.
Champions Recovery	6.75	CUP approved. Tenant improvements in existing building. Construction completed. Therefore, this project is not considered in the cumulative analysis.
Quay Valley New Community	24	This project is under review but is not likely to overlap with Java Project construction. Even in the unlikely event that this project is constructed during the same timeframe as the Java Project, the Quay Valley New Community would be located approximately 24 miles south of the Java Project. Due to this project's distance from the Java Project, and the fact that this project is unlikely to be constructed within the Java Project construction timeframe, this project is not considered in the cumulative analysis.
Hyperloop Test System	24	The project proponent estimates that construction could begin in the third quarter of 2016 with operation in 2018. However, an Administrative Draft EIR has not yet been submitted to the County for review. Therefore, it is unlikely that this project will begin construction on schedule. Even if this project is constructed during the same timeframe as the Java Project, the Hyperloop Test System would be located approximately 24 miles south of the Java Project. Due to this project's distance from the Java Project, and the fact that this project is unlikely to be constructed within the Java Project construction timeframe, this project is not considered in the cumulative analysis.
Fernandez Tattoo Parlor	8	CUP approved. This project is a tenant improvement in an existing building and would not contribute to cumulative construction impacts. Therefore, this project is not considered in the cumulative analysis.

Table 3.18-3. Pending, Approved, and Completed Non-Solar Projects

Project	Distance from Java(Miles)	Estimated Construction Schedule
Tower Tattoo Parlor	7.8	CUP approved. This project is a tenant improvement in an existing building and would not contribute to cumulative construction impacts. Therefore, this project is not considered in the cumulative analysis.
SAC Wireless - Verizon	7.5	CUP approved. This project includes the construction of a cell tower and has already been constructed or is likely to be constructed prior to construction of the Java Project. Therefore, this project is not considered in the cumulative analysis.
AT&T	2.5	CUP approved. This project includes the construction of a cell tower and has already been constructed or is likely to be constructed prior to construction of the Java Project. Therefore, this project is not considered in the cumulative analysis.
Complete Wireless – Verizon	11	CUP approved. This project includes the construction of a cell tower and has already been constructed or is likely to be constructed prior to construction of the Java Project. Therefore, this project is not considered in the cumulative analysis.
SAC Wireless - Verizon	19.5	CUP approved. This project includes the construction of a cell tower and has already been constructed or is likely to be constructed prior to construction of the Java Project. Therefore, this project is not considered in the cumulative analysis.
SAC Wireless - Verizon	8.5	CUP approved. This project includes the construction of a cell tower and has already been constructed or is likely to be constructed prior to construction of the Java Project. Therefore, this project is not considered in the cumulative analysis.

Source: Roper, Sandy 2016

The potential of the Project, together with the cumulative projects (including other solar PV developments), to contribute to cumulative impacts with regard to agriculture, aesthetics, greenhouse gases, biological resources, hydrology and water quality, and traffic and transportation are described below.

Agriculture. The Java Project site would be located on 96.2 acres of disturbed agricultural land classified as Farmland of Statewide Importance land by the California Department of Conservation. In addition, the entire site is designated as General Agriculture (AG-20) by Kings County. In 2010, Kings County had approximately 552,087 acres of Important Farmlands (including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance) and an additional 271,831 acres of grazing land (DOC 2014). Although the Java Project and other solar projects in the vicinity would use 10,420.67 acres of available farmland (approximately 1.2%) in Kings County for solar development and other purposes, agriculture has been in decline in the Project area in recent years due to a variety of factors as described in Section 3.2, "Agriculture and Forestry Resources." In addition, the Java Project would continue agricultural uses on the subject properties through the use of livestock grazing, as would a number of other solar projects in the area. In addition, the applicant would be required to implement MM AG-1 (Agricultural Management Plan), MM AG-2 (Soil Reclamation Plan), and MM AG-3 (Financial Assurances), and MM-AG-4 (Solid Waste Management Plan) to reduce impacts on agriculture to less than significant. Therefore, the Project would result in a less than significant contribution to cumulative impacts on agriculture in the area.

Aesthetics. The Java Project's solar arrays would be similar in appearance to the solar projects listed above. Although the Project would contribute to a cumulative visual impact on the area due to the addition of more solar facility uses in an agricultural area, the contribution of the Java Project would not be cumulatively considerable because of the already low visual quality of the overall area due to significant existing development (i.e., the Henrietta, Kansas, and Kansas South Solar Projects and NAS Lemoore). In addition, impacts on aerial (pilot) viewers would be less than significant, as discussed in Section 3.1, "Aesthetics."

Although the these developments would alter the existing rural character of the area until their respective decommissioning, not all projects would be visible within the same viewshed, and due to the distance between sites, the majority of the projects would not be visible at the same time as the Java Project. The Henrietta, Kansas, and Kansas South projects could be visible for certain viewers concurrently with the Java Project; however, given that there are only several scattered residences in the vicinity that would be within visual range, the Java Project would not make a significant contribution to aesthetic impacts, and the cumulative impact would be less than significant.

Air Quality. As discussed in Section 3.3, "Air Quality," in order to assess cumulative impacts, the significance of the incremental effects of the Java Project was estimated in connection with the effects of past, current, and probable future projects within the same geographic area. The projects with a potential to generate emissions that would cumulate with those of the Java Project are all solar plants, either under construction or operational. The projects closest to the Java Project site which are expected to be under construction in the same area and during the same timeframe are six solar projects, all located between 1.6 and 5 miles from the proposed project site. Three more solar plants are located farther away, at distances equal or larger than 14 miles from the Java Project site. Assuming a similar level of construction emissions from all the solar projects in the area, and making the conservative assumption that construction activities from all the plants would occur during the exact timeframe as the Java Project, the total construction emissions of PM_{10} from all the solar projects in the area could be estimated to be about 14 tons per year, which is below the significance threshold of 15 tons per year for a project's construction emissions. In addition, the significance thresholds have been designed to provide reference emission levels for the most conservative scenario, which is a single source. Emissions originating from multiple sources distributed over an area have substantially lower air quality impacts compared to a single source. Therefore, it can be reasonably inferred that the cumulative air quality impacts of PM_{10} emissions are expected to be well below the air quality standards and, therefore, would not result in a considerable net increase of PM_{10} levels in the region. In addition, a number of the solar projects are not likely to be constructed, as indicated in Table 3.18-2. Therefore, cumulative impacts are likely to be well under 14 tons.

Greenhouse Gases. Potential cumulative impacts that could occur with regard to GHGs are addressed in Section 3.7, "Greenhouse Gas Emissions." GHG emissions and their contribution to the global effect known as climate change are an inherently cumulative impact. However, the projects included in the cumulative scenario that would have the greatest potential to contribute to cumulative impacts include other solar PV facilities. Similar to the Java Project, these projects would 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 would help facilitate the retirement of existing older fossil-fueled generation plants, thereby avoiding or offsetting those sources of GHG emissions. Therefore, the Java Project would not contribute to adverse cumulative impacts due to GHG emissions.

Biological Resources. The Java Project could contribute to a cumulative impact on biological resources, as described in Section 3.4, "Biological Resources;" however, implementation of MM BIO-1 (Preconstruction Clearance Surveys), MM BIO-2 (Nesting Bird Protection Measures), MM BIO-3 (Burrowing Owl Impact Reduction Measures), MM AQ-1 (Dust Control), and MM BIO-4 (San Joaquin Kit Fox Protection Measures) would be sufficient to protect special status plant and animal species, as well as other wildlife, and reduce impacts to less than significant. There is a potential cumulative impact to foraging habitat for Swainson's hawk; however, as discussed in Section 3.4, "Biological Resources," the Project accounts for a negligible loss of foraging habitat and the cumulative projects account for approximately 9.7 percent of the estimated surplus foraging habitat. Therefore, the project's contribution would be less than significant and cumulative impacts on biological resources would be less than significant.

Hydrology and Water Quality. The Java Project is located within the Tulare Lake Subbasin, and potential cumulative impacts on hydrology and water resources could occur due to each project drawing on this subbasin. Those projects listed in Table 3.16-2, not located within the Tulare Lake Subbasin are not included in this analysis. The Java Project would be located on disturbed agricultural land, as would all of the cumulative solar projects taken into consideration. As shown in Section 3.9, "Hydrology and Water Quality," the Java Project would require less water for construction and operation than would be required for row crop agriculture. Because the cumulative solar projects would be similar technologically to the Java Project, these projects would have comparable water use requirements. Therefore, the combined water use of these solar projects would be less than what has been required to sustain cumulative agricultural production on these parcels in the past, and there would be no cumulative impact on water use. The contribution of the Java Project would be less than significant.

With respect to stormwater drainage and water quality, the Project and other cumulative projects occur on similar flat topography, in a semi-arid climate. The majority of these project sites will consist of permeable soil and vegetated cover during operation, and runoff from even a major storm event would be captured by the many agricultural ditches spread throughout Kings County. Each project would also be required to prepare and implement a SWPPP that would put measures in place to control erosion and discharge of hazardous materials from the site. As such, the potential cumulative impacts related to stormwater runoff and water quality would be less than significant with the implementation of MM HYD-1 (Stormwater Quality Protection) and MM HAZ-1 (Hazardous Materials Business Plan), and the contribution of the Java Project would be less than significant.

Traffic and Transportation. Other solar projects under construction in the vicinity of the Java Project could have a cumulative effect on traffic and transportation if they were constructed in close proximity to the Java Project during the same timeframe. For example, both the Java Project and the Lemoore 14 project could be constructed within the same timeframe, in close proximity to each other, within less than two miles, off of SR-41. It is assumed that the Lemoore 14 project would contribute similar amounts of traffic to local roadways during its construction. Therefore, if the Lemoore 14 project contributed approximately the same amount of traffic to each roadway as the Java Project, the addition of 600 total vehicles to the local roadways in closest proximity to the Java Project during peak construction would be temporary and would not be cumulatively considerable. In addition, Mustang, Mustang, 2, American Kings, Orion, and Westside Solar projects are all located within 5 miles of the Java Project; however, these projects are clustered in a distinct location, immediately adjacent to each other off of SR-198, southwest of Lemoore Station. Due to their location, while these projects could contribute to traffic congestion in their immediate vicinity during construction, the Java Project is located off of SR-41, some distance east of these projects. As such, while the Java Project would contribute a small amount of traffic to the surrounding roadways, as described in Section 3.16, "Traffic and Transportation," with the implementation of MM TR-1, the Java Project's contribution to cumulative traffic impacts would not be cumulatively considerable.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

LESS THAN SIGNIFICANT WITH MITIGATION. The Project would result in no significant impacts related to geology, land use, population and housing, hazards, noise, public services, or utilities. With the implementation of MMs (MM AIR-1, MM HAZ-1, and MM HYD-1), and the applicant's standard fire prevention measures, as described in Section 3.8, "Hazards and Hazardous Materials," and Section 3.14, "Public Services and Utilities," any potential direct or indirect impacts to human health and safety would be reduced to less than significant levels. Therefore, potential impacts under this criterion would be less than significant.

References

California Department of Conservation (DOC). 2014. California Farmland Conversion Report 2008 - 2010). Division of Land Resource Protection, Farmland Mapping and Monitoring Program.

Kings County Community Development Agency (CDA). 2016. Map for Solar PV Application in unincorporated areas of Kings County. January 19, 2016.

Roper, Sandy. 2016. Personal communication between Sandy Roper, Kings County Community Development Agency, and Rachel James, Ecology and Environment, Inc. May 2016.

Westlands Water District (WWD). N.d. "Land Management." http://wwd.ca.gov/resource-management/land-management/ Accessed June 26, 2016.

Appendix A

APPENDIX A

AIR QUALITY EMISSIONS CALCULATIONS

Summary of Project Emissions

Total Construction Unmitigated Emissions (CalEEMod Outputs - See Appendices A.1 to A.6 for details)

	Emissions (Tons)										Distribution		
Emissions Source	**ROG**	**NOX**	**CO**	**SO2**	**PM10**			**PM2.5**			**Year**		
ONSITE	**Exhaust**	**Exhaust**	**Exhaust**	**Exhaust**	**Dust**	**Exhaust**	**Total**	**Dust**	**Exhaust**	**Total**	**2015**	**2016**	**Total**
Onsite Construction Equipment	0.22	2.23	1.32	2.30E-03	0.14	0.12	0.26	0.02	0.11	0.13	0%	100%	100%
Onsite Truck	0.01	0.14	0.06	3.60E-04	0.10	0.00	0.10	0.01	0.00	0.02	0%	100%	100%
Onsite Delivery Trips	0.00	0.00	0.02	1.00E-05	0.04	0.00	0.43	0.00	0.00	0.00	0%	100%	100%
Onsite Employee Trips	0.01	0.00	0.03	1.00E-05	0.09	0.00	0.09	0.01	0.00	0.01	0%	100%	100%
Unpaved Road Dust													
Unpaved Road Dust - Employees					0.13		0.13				0%	100%	100%
Unpaved Road Dust - Delivery					0.25		0.25				0%	100%	100%
Unpaved Road Dust - Gators					0.43		0.43				0%	100%	100%
Unpaved Road Dust - Onsite Truck					0.45		0.45				0%	100%	100%
OFFSITE													
Offsite Employees	0.02	0.06	0.52	9.20E-04	0.17	0.00	0.17	0.03	0.00	0.03	0%	100%	100%
Offsite Delivery Trips	0.01	0.22	0.07	6.60E-04	0.06	0.00	0.06	0.01	0.00	0.01	0%	100%	100%
TOTAL	**0.28**	**2.65**	**2.02**	**0.0043**	**1.85**	**0.13**	**2.37**	**0.08**	**0.12**	**0.20**			
CEQA Threshold	10.00	10.00	N/A	N/A	N/A	N/A	15.00	N/A	N/A	N/A			
Exceed Threshold?	No	No					No						

Total Construction Mitigated Emissions (Assumes Implementation of SJVAPCD Regulation VIII)										
	Emissions (Tons)									
Emissions Source	**ROG**	**NOX**	**CO**	**SO2**	**PM10**			**PM2.5**		
ONSITE	**Exhaust**	**Exhaust**	**Exhaust**	**Exhaust**	**Dust**	**Exhaust**	**Total**	**Dust**	**Exhaust**	**Total**
Onsite Construction Equipment	0.22	2.23	1.32	2.30E-03	0.14	0.12	0.26	0.02	0.11	0.13
Onsite Truck	0.01	0.14	0.06	3.60E-04	0.10	0.00	0.10	0.01	0.00	0.02
Onsite Delivery Trips	0.00	0.00	0.02	1.00E-05	0.04	0.00	0.04	0.00	0.00	0.00
Onsite Employee Trips	0.01	0.00	0.03	1.00E-05	0.09	0.00	0.09	0.01	0.00	0.01
Unpaved Road Dust										
Unpaved Road Dust - Employees					0.04		0.04			
Unpaved Road Dust - Delivery					0.07		0.07			
Unpaved Road Dust - Gators					0.13		0.13			
Unpaved Road Dust - Onsite Truck					0.14		0.14			
OFFSITE										
Offsite Employees	0.02	0.06	0.52	9.20E-04	0.17	0.00	0.17	0.03	0.00	0.03
Offsite Delivery Trips	0.01	0.22	0.07	6.60E-04	0.06	0.00	0.06	0.01	0.00	0.01
TOTAL	**0.28**	**2.65**	**2.02**	**0.0043**	**0.98**	**0.13**	**1.10**	**0.08**	**0.12**	**0.20**
CEQA Threshold	10.00	10.00	N/A	N/A	N/A	N/A	15.00	N/A	N/A	N/A
Exceed Threshold?	No	No					No			

CalEEMod GHG Emissions from Construction Activities (MT/year)						
	Biogenic CO2	Non Biogenic CO2	Total CO2	CH4	N2O	CO2e
Onsite Construction Equipment	0.00	213.18	213.18	6.2E-02	0.00	214.48
Onsite Truck	0.00	33.22	33.22	2.6E-04	0.00	33.22
Onsite Delivery Trips	0.00	0.50	0.50	1.0E-05	0.00	0.50
Onsite Employee Trips	0.00	0.73	0.73	1.2E-04	0.00	0.74
Offsite Employee Trips	0.00	69.27	69.27	4.2E-03	0.00	69.36
Offsite Delivery Trips	0.00	60.26	60.26	4.2E-04	0.00	60.27
Total	**0.00**	**377.15**	**377.15**	**6.7E-02**	**0.00**	**378.56**

Unpaved Road Dust Emissions

Unpaved Road Dust Emission Factor Equation

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation
Source: EPA AP-42. Section 13.2.2 Unpaved Roads

E = k (s/12)^a(W/3)^b

E = Size-specific emission factor (lbs/VMT)
k = Constant for Industrial Road, PM10
s = surface material silt content (%)
a = Constant for Industrial Road, PM10
W = mean vehicle weight (tons)
b = constant for industrial Road, PM10

Regulation VIII Reductic 70%

Source of S = CalEEMod Default, Statewide Average silt content
Source of Equation: EPA AP-42. Section 13.2.2 Unpaved Roads

Unpaved Road Dust Emission Factors

K= 1.50
s = 4.30 (s/12)^a = 0.40
a = 0.90
b = 0.45

					Unmitigated Emissions		Mitigated Emissions	
		PM10 EF (lbs/VMT)			PM10		PM 10	
Vehicle Type	**Weight (Tons)**	**Without Reg 8**	**With Reg 8**	**VMT**	**Lbs**	**Tons**	**Lbs**	**Tons**
Employees	1.9	0.48	0.14	542	261	0.13	78	0.04
Delivery Truck	30.0	1.68	0.50	292	490	0.25	147	0.07
Gator	1.0	0.36	0.11	2,390	868	0.43	260	0.13
Vendor	10.0	1.02	0.31	880	901	0.45	270	0.14
Worker	2.9	0.58	0.18	957	559	0.28	168	0.08

Travel and Vehicle Parameters

Employee Onsite

te miles/employee/day 0.2
nber of Employee-Days 2,710.00
Miles Onsite 542.00

Gator Onsite

Gators 8
Total Hours Onsite 443
Miles Onsite Access Roads 1,782
Miles Onsite Off-Road 608
Total Miles Onsite 2,390

Delivery Truck Onsite

Onsite miles/truck 1.0
Number of Trucks 292
Miles Onsite 292.00

:e, Dump, and other Truck C

"Vendor" Miles Onsite 1,223.0
"Worker" Miles Onsite 1,372.0

Operation and Maintenance Unmitigated and Mitigated Emissions

EMFAC2014 (v1.0.7) Emission Rates
Region Type: County
Region: Kings
Calendar Year: 2017
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG	CO	Nox	PM10	PM2_5	Sox	CO2
Kings	2017	LDA	Aggregated	Aggregated	GAS	52853	2082131	332854	0.0213	0.8720	0.0900	0.0015	0.0014	0.0030	300.7835
Kings	2017	LDA	Aggregated	Aggregated	DSL	382	17071	2366	0.0258	0.2654	0.1599	0.0154	0.0147	0.0026	276.1889
Kings	2017	LDA	Aggregated	Aggregated	ELEC	386	20882	2507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Kings	2017	MDV	Aggregated	Aggregated	DSL	175	7639	1091	0.0190	0.2236	0.0747	0.0106	0.0102	0.0045	470.2761
Total cars									**0.0471**	**1.1374**	**0.2500**	**0.0169**	**0.0161**	**0.0057**	**576.9724**

Paved Road Emissions	Trip length	Total miles							
3 workers would commute to the site every day to make a visual inspection and do general maintenance activities (40 miles)	40	43800	2063.28	49816.23	10948.03	741.08	706.58	247.63	25271392
Once they arrive at the site, they would use one vehicle to make one loop around the site (10 miles)	10	3650	171.94	4151.35	912.34	61.76	58.88	20.64	2105949
30 employees would commute to the site once a year to complete panel washing activities. (40 miles)	40	1200	56.53	1364.83	299.95	20.30	19.36	6.78	692367
Two work crews in four vehicles, driving ½ mile each onsite each day for three days. (0.5 miles)	0.5	6	0.28	6.82	1.50	0.10	0.10	0.03	3462
One additional worker would commute to the site twice per year for security purposes (40 miles)	40	80	3.77	90.99	20.00	1.35	1.29	0.45	46158
They would make one loop around the site perimeter (5 miles)	5	10	0.47	11.37	2.50	0.17	0.16	0.06	5770
Two machines operating for 8 hours for three days per year. (25 miles)	25	150	2.85	33.54	11.20	1.59	1.52	0.67	70541
Total Exhaust (g/yr)			**2299.12**	**55475.14**	**12195.52**	**826.35**	**787.90**	**276.26**	**28195639**
Total Exhaust (tons/yr)			**0.00230**	**0.05548**	**0.01220**	**0.00083**	**0.00079**	**0.00028**	**28**

Unmitigated Unpaved Road Dust Emissions (tons/yr)							
Employees				0.806	0.081		
Trucks				0.114	0.011		
Total Dust				**0.921**	**0.092**		
Total Unmitigated	**0.00230**	**0.05548**	**0.01220**	**0.92142**	**0.09285**	**0.00028**	**28**

Mitigated Unpaved Road Dust Emissions (tons/yr)							
Employees				0.242	0.024		
Trucks				0.034	0.003		
Total dust				**0.276**	**0.028**		
Total Mitigated	**0.00230**	**0.05548**	**0.01220**	**0.27701**	**0.02841**	**0.00028**	**28**

Unpaved Road Dust Emission Factors		
E = k(s/12)^a(W/3)^b		Size-specific emission factor (lbs/VMT)
k (PM10)	1.5	Constant for Industrial Road
k (PM2.5)	0.15	Constant for Industrial Road
a	0.9	Constant for Industrial Road
b	0.45	Constant for Industrial Road
s	4.3	Surface material silt content (%)
W Employees	1.9	Mean vehicle weight (tons)
W truck	30	Mean vehicle weight (tons)

	VMT	E - PM10	E - PM2.5
Employees	3666	0.485	0.048
Trucks	150	1.679	0.168

APPENDIX A CalEEMod Outputs

A.1 Onsite Construction Equipment Emissions

Sunpower Java Solar IS/MND Construction

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	90.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2017
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 - Solar Panel Farm.

Construction Phase - Total days values from developer.

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Water trucks

Off-road Equipment - Values from developer

Off-road Equipment - Value from developer

Off-road Equipment - Gators

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Trips and VMT - Values from developer

On-road Fugitive Dust -

Grading - Estimate for 90 acre site.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,550.00	5.00
tblConstructionPhase	NumDays	1,550.00	12.00
tblConstructionPhase	NumDays	1,550.00	20.00
tblConstructionPhase	NumDays	1,550.00	22.00
tblConstructionPhase	NumDays	1,550.00	22.00
tblConstructionPhase	NumDays	1,550.00	35.00
tblConstructionPhase	NumDays	1,550.00	38.00
tblConstructionPhase	NumDays	1,550.00	10.00
tblConstructionPhase	NumDays	1,550.00	10.00
tblConstructionPhase	NumDays	1,550.00	50.00
tblConstructionPhase	NumDays	1,550.00	25.00
tblConstructionPhase	NumDays	1,550.00	12.00
tblConstructionPhase	NumDays	155.00	5.00
tblConstructionPhase	NumDays	60.00	50.00
tblConstructionPhase	NumDays	60.00	30.00
tblConstructionPhase	NumDays	60.00	50.00
tblConstructionPhase	NumDays	60.00	12.00
tblConstructionPhase	NumDays	60.00	5.00
tblConstructionPhase	PhaseEndDate	3/8/2016	3/7/2016
tblConstructionPhase	PhaseEndDate	3/23/2016	3/18/2016
tblConstructionPhase	PhaseEndDate	4/15/2016	3/31/2016
tblConstructionPhase	PhaseEndDate	5/2/2016	4/13/2016
tblConstructionPhase	PhaseEndDate	5/13/2016	5/2/2016
tblConstructionPhase	PhaseEndDate	6/20/2016	5/19/2016
tblConstructionPhase	PhaseEndDate	7/12/2016	5/25/2016
tblConstructionPhase	PhaseEndDate	6/8/2016	4/28/2016
tblConstructionPhase	PhaseEndDate	5/12/2016	5/3/2016

tblConstructionPhase	PhaseEndDate	5/19/2016	3/10/2016
tblConstructionPhase	PhaseEndDate	3/1/2016	3/4/2016
tblConstructionPhase	PhaseEndDate	3/22/2016	3/1/2016
tblConstructionPhase	PhaseEndDate	2/2/2016	1/15/2016
tblConstructionPhase	PhaseEndDate	4/21/2016	2/12/2016
tblConstructionPhase	PhaseEndDate	4/22/2016	3/14/2016
tblConstructionPhase	PhaseEndDate	3/30/2016	1/26/2016
tblConstructionPhase	PhaseEndDate	1/22/2016	1/26/2016
tblConstructionPhase	PhaseEndDate	4/19/2016	3/31/2016
tblConstructionPhase	PhaseStartDate	3/2/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	3/8/2016	3/3/2016
tblConstructionPhase	PhaseStartDate	3/19/2016	3/4/2016
tblConstructionPhase	PhaseStartDate	4/1/2016	3/15/2016
tblConstructionPhase	PhaseStartDate	4/14/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	5/3/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	5/20/2016	4/2/2016
tblConstructionPhase	PhaseStartDate	5/26/2016	4/15/2016
tblConstructionPhase	PhaseStartDate	4/29/2016	4/20/2016
tblConstructionPhase	PhaseStartDate	3/11/2016	1/1/2016
tblConstructionPhase	PhaseStartDate	1/27/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	3/5/2016	2/15/2016
tblConstructionPhase	PhaseStartDate	1/27/2016	1/11/2016
tblConstructionPhase	PhaseStartDate	3/11/2016	1/4/2016
tblConstructionPhase	PhaseStartDate	2/13/2016	1/5/2016
tblConstructionPhase	PhaseStartDate	3/15/2016	1/10/2016
tblConstructionPhase	PhaseStartDate	1/16/2016	1/20/2016
tblConstructionPhase	PhaseStartDate	4/1/2016	3/15/2016
tblGrading	AcresOfGrading	0.00	10.00

tblGrading	AcresOfGrading	0.00	80.00
tblGrading	AcresOfGrading	13.13	80.00
tblGrading	AcresOfGrading	0.00	80.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	0.2226	2.2250	1.3209	2.3000e-003	0.1409	0.1188	0.2597	0.0157	0.1096	0.1253	0.0000	213.1770	213.1770	0.0620	0.0000	214.4782
Total	**0.2226**	**2.2250**	**1.3209**	**2.3000e-003**	**0.1409**	**0.1188**	**0.2597**	**0.0157**	**0.1096**	**0.1253**	**0.0000**	**213.1770**	**213.1770**	**0.0620**	**0.0000**	**214.4782**

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	0.2226	2.2250	1.3209	2.3000e-003	0.1409	0.1188	0.2597	0.0157	0.1096	0.1253	0.0000	213.1767	213.1767	0.0620	0.0000	214.4779
Total	**0.2226**	**2.2250**	**1.3209**	**2.3000e-003**	**0.1409**	**0.1188**	**0.2597**	**0.0157**	**0.1096**	**0.1253**	**0.0000**	**213.1767**	**213.1767**	**0.0620**	**0.0000**	**214.4779**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Dust Control	Site Preparation	1/1/2016	3/10/2016	5	50	
2	Material Receiving	Building Construction	1/1/2016	3/10/2016	5	50	
3	Site Preparation	Site Preparation	1/4/2016	2/12/2016	5	30	
4	General Conditions	Site Preparation	1/5/2016	3/14/2016	5	50	
5	Access Roads and Canal Crossings	Site Preparation	1/10/2016	1/26/2016	5	12	
6	Erosion & Sediment Control	Grading	1/11/2016	1/15/2016	5	5	
7	Fencing	Site Preparation	1/20/2016	1/26/2016	5	5	
8	Driven Piles	Building Construction	2/1/2016	3/4/2016	5	25	
9	Drive Motor Foundations	Building Construction	2/15/2016	3/1/2016	5	12	
10	AC Station Foundations	Building Construction	3/1/2016	3/7/2016	5	5	
11	Metal Erection	Building Construction	3/3/2016	3/18/2016	5	12	
12	Cable Tray	Building Construction	3/4/2016	3/31/2016	5	20	
13	MV & Fiber Underground	Trenching	3/15/2016	3/31/2016	5	13	
14	DC & Drive Motor Underground	Building Construction	3/15/2016	4/13/2016	5	22	
15	PV Install	Building Construction	4/1/2016	5/2/2016	5	22	
16	O&M Building	Building Construction	4/1/2016	5/19/2016	5	35	
17	Substation	Building Construction	4/2/2016	5/25/2016	5	38	
18	AC Stations Final	Building Construction	4/15/2016	4/28/2016	5	10	
19	String Wire Connections	Building Construction	4/20/2016	5/3/2016	5	10	
20	Landscaping	Trenching	5/4/2016	5/17/2016	5	10	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Dust Control	Off-Highway Trucks	3	8.00	205	0.38
Dust Control	Rubber Tired Dozers	0	8.00	255	0.40
Dust Control	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Material Receiving	Cranes	0	7.00	226	0.29
Material Receiving	Forklifts	1	6.00	110	0.20
Material Receiving	Generator Sets	0	8.00	84	0.74
Material Receiving	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Material Receiving	Welders	0	8.00	46	0.45
Site Preparation	Crawler Tractors	1	7.00	276	0.43
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Rubber Tired Loaders	1	7.00	205	0.36
Site Preparation	Skid Steer Loaders	1	7.00	79	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	111	0.37
General Conditions	Dumpers/Tenders	4	2.50	22	0.38
General Conditions	Rubber Tired Dozers	0	8.00	255	0.40
General Conditions	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Access Roads and Canal Crossings	Graders	1	7.00	209	0.41
Access Roads and Canal Crossings	Pavers	1	4.00	102	0.42
Access Roads and Canal Crossings	Rollers	2	4.00	80	0.38
Access Roads and Canal Crossings	Rubber Tired Dozers	0	8.00	255	0.40
Access Roads and Canal Crossings	Rubber Tired Loaders	1	7.00	271	0.36
Access Roads and Canal Crossings	Skid Steer Loaders	1	7.00	79	0.37
Access Roads and Canal Crossings	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Erosion & Sediment Control	Excavators	0	8.00	162	0.38
Erosion & Sediment Control	Graders	0	8.00	174	0.41
Erosion & Sediment Control	Rubber Tired Dozers	0	8.00	255	0.40

Erosion & Sediment Control	Scrapers	0	8.00	361	0.48
Erosion & Sediment Control	Skid Steer Loaders	1	7.00	79	0.37
Erosion & Sediment Control	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fencing	Generator Sets	1	7.00	22	0.74
Fencing	Rubber Tired Dozers	0	8.00	255	0.40
Fencing	Skid Steer Loaders	1	4.00	79	0.37
Fencing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Driven Piles	Bore/Drill Rigs	5	7.00	48	0.50
Driven Piles	Cranes	0	7.00	226	0.29
Driven Piles	Dumpers/Tenders	1	2.50	22	0.38
Driven Piles	Forklifts	2	7.00	110	0.20
Driven Piles	Generator Sets	0	8.00	84	0.74
Driven Piles	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Driven Piles	Welders	0	8.00	46	0.45
Drive Motor Foundations	Bore/Drill Rigs	1	7.00	227	0.50
Drive Motor Foundations	Cranes	0	7.00	226	0.29
Drive Motor Foundations	Dumpers/Tenders	1	2.50	22	0.38
Drive Motor Foundations	Forklifts	1	3.00	110	0.20
Drive Motor Foundations	Generator Sets	0	8.00	84	0.74
Drive Motor Foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Drive Motor Foundations	Welders	1	4.00	23	0.45
AC Station Foundations	Cranes	0	7.00	226	0.29
AC Station Foundations	Dumpers/Tenders	1	2.50	22	0.38
AC Station Foundations	Forklifts	0	8.00	89	0.20
AC Station Foundations	Generator Sets	0	8.00	84	0.74
AC Station Foundations	Skid Steer Loaders	1	3.00	79	0.37
AC Station Foundations	Tractors/Loaders/Backhoes	1	7.00	111	0.37
AC Station Foundations	Welders	0	8.00	46	0.45

Metal Erection	Air Compressors	1	6.00	13	0.48
Metal Erection	Cranes	0	7.00	226	0.29
Metal Erection	Dumpers/Tenders	1	5.00	22	0.38
Metal Erection	Forklifts	1	7.00	110	0.20
Metal Erection	Generator Sets	0	8.00	84	0.74
Metal Erection	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Metal Erection	Welders	0	8.00	46	0.45
Cable Tray	Cranes	0	7.00	226	0.29
Cable Tray	Dumpers/Tenders	1	2.50	22	0.38
Cable Tray	Forklifts	1	2.50	110	0.20
Cable Tray	Generator Sets	0	8.00	84	0.74
Cable Tray	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Cable Tray	Welders	0	8.00	46	0.45
MV & Fiber Underground	Forklifts	1	7.00	110	0.20
MV & Fiber Underground	Tractors/Loaders/Backhoes	2	7.00	111	0.37
DC & Drive Motor Underground	Cranes	0	7.00	226	0.29
DC & Drive Motor Underground	Forklifts	1	7.00	110	0.20
DC & Drive Motor Underground	Generator Sets	0	8.00	84	0.74
DC & Drive Motor Underground	Tractors/Loaders/Backhoes	2	7.00	111	0.37
DC & Drive Motor Underground	Welders	0	8.00	46	0.45
PV Install	Air Compressors	2	6.00	13	0.48
PV Install	Cranes	0	7.00	226	0.29
PV Install	Dumpers/Tenders	1	2.50	22	0.38
PV Install	Forklifts	1	7.00	110	0.20
PV Install	Generator Sets	0	8.00	84	0.74
PV Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
PV Install	Welders	0	8.00	46	0.45
O&M Building	Aerial Lifts	1	7.00	29	0.31

O&M Building	Air Compressors	1	4.00	13	0.48
O&M Building	Cranes	0	7.00	226	0.29
O&M Building	Excavators	2	7.00	185	0.38
O&M Building	Forklifts	1	4.00	110	0.20
O&M Building	Generator Sets	1	4.00	22	0.74
O&M Building	Skid Steer Loaders	1	7.00	79	0.37
O&M Building	Tractors/Loaders/Backhoes	1	7.00	111	0.37
O&M Building	Welders	0	8.00	46	0.45
Substation	Aerial Lifts	1	7.00	29	0.31
Substation	Air Compressors	1	4.00	13	0.48
Substation	Cranes	1	7.00	478	0.29
Substation	Cranes	1	7.00	31	0.29
Substation	Excavators	1	7.00	38	0.38
Substation	Forklifts	1	4.00	110	0.20
Substation	Generator Sets	1	4.00	22	0.74
Substation	Skid Steer Loaders	1	7.00	79	0.37
Substation	Tractors/Loaders/Backhoes	1	7.00	111	0.37
Substation	Welders	0	8.00	46	0.45
AC Stations Final	Cranes	1	7.00	478	0.29
AC Stations Final	Forklifts	0	8.00	89	0.20
AC Stations Final	Generator Sets	0	8.00	84	0.74
AC Stations Final	Tractors/Loaders/Backhoes	1	7.00	111	0.37
AC Stations Final	Welders	0	8.00	46	0.45
String Wire Connections	Cranes	0	7.00	226	0.29
String Wire Connections	Dumpers/Tenders	1	2.50	22	0.38
String Wire Connections	Forklifts	1	3.00	110	0.20
String Wire Connections	Generator Sets	0	8.00	84	0.74
String Wire Connections	Tractors/Loaders/Backhoes	0	7.00	97	0.37

String Wire Connections	Welders	0	8.00	46	0.45
Landscaping	Excavators	1	7.00	38	0.38
Landscaping	Skid Steer Loaders	1	7.00	79	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Dust Control	3	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Material Receiving	1	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
General Conditions	4	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Access Roads and Canal Crossings	6	10.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Erosion & Sediment Control	1	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fencing	2	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Driven Piles	8	20.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Drive Motor Foundations	4	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
AC Station Foundations	3	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Metal Erection	3	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Cable Tray	2	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
MV & Fiber Underground	3	8.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
DC & Drive Motor Underground	3	8.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
PV Install	4	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
O&M Building	8	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Substation	9	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
AC Stations Final	2	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
String Wire Connections	2	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping	2	0.00	0.00	0.00	9.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Dust Control - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0459	0.4973	0.1879	5.0000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	46.9712	46.9712	0.0142	0.0000	47.2687
Total	**0.0459**	**0.4973**	**0.1879**	**5.0000e-004**	**0.0424**	**0.0214**	**0.0638**	**4.5800e-003**	**0.0197**	**0.0243**	**0.0000**	**46.9712**	**46.9712**	**0.0142**	**0.0000**	**47.2687**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Dust Control - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0459	0.4973	0.1879	5.0000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	46.9711	46.9711	0.0142	0.0000	47.2687
Total	**0.0459**	**0.4973**	**0.1879**	**5.0000e-004**	**0.0424**	**0.0214**	**0.0638**	**4.5800e-003**	**0.0197**	**0.0243**	**0.0000**	**46.9711**	**46.9711**	**0.0142**	**0.0000**	**47.2687**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Material Receiving - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	5.2600e-003	0.0453	0.0293	4.0000e-005		3.7900e-003	3.7900e-003		3.4800e-003	3.4800e-003	0.0000	3.3369	3.3369	1.0100e-003	0.0000	3.3580
Total	**5.2600e-003**	**0.0453**	**0.0293**	**4.0000e-005**		**3.7900e-003**	**3.7900e-003**		**3.4800e-003**	**3.4800e-003**	**0.0000**	**3.3369**	**3.3369**	**1.0100e-003**	**0.0000**	**3.3580**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Material Receiving - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	5.2600e-003	0.0453	0.0293	4.0000e-005		3.7900e-003	3.7900e-003		3.4800e-003	3.4800e-003	0.0000	3.3369	3.3369	1.0100e-003	0.0000	3.3580
Total	**5.2600e-003**	**0.0453**	**0.0293**	**4.0000e-005**		**3.7900e-003**	**3.7900e-003**		**3.4800e-003**	**3.4800e-003**	**0.0000**	**3.3369**	**3.3369**	**1.0100e-003**	**0.0000**	**3.3580**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Site Preparation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0246	0.3052	0.1589	3.0000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	28.0427	28.0427	8.4600e-003	0.0000	28.2203
Total	**0.0246**	**0.3052**	**0.1589**	**3.0000e-004**	**0.0424**	**0.0137**	**0.0561**	**4.5800e-003**	**0.0126**	**0.0172**	**0.0000**	**28.0427**	**28.0427**	**8.4600e-003**	**0.0000**	**28.2203**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Site Preparation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0246	0.3052	0.1589	3.0000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	28.0427	28.0427	8.4600e-003	0.0000	28.2203
Total	**0.0246**	**0.3052**	**0.1589**	**3.0000e-004**	**0.0424**	**0.0137**	**0.0561**	**4.5800e-003**	**0.0126**	**0.0172**	**0.0000**	**28.0427**	**28.0427**	**8.4600e-003**	**0.0000**	**28.2203**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 General Conditions - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1800e-003	0.0202	0.0108	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.3755	2.3755	2.6000e-004	0.0000	2.3809
Total	**3.1800e-003**	**0.0202**	**0.0108**	**3.0000e-005**	**0.0424**	**8.1000e-004**	**0.0432**	**4.5800e-003**	**8.1000e-004**	**5.3900e-003**	**0.0000**	**2.3755**	**2.3755**	**2.6000e-004**	**0.0000**	**2.3809**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 General Conditions - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1800e-003	0.0202	0.0108	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.3755	2.3755	2.6000e-004	0.0000	2.3809
Total	**3.1800e-003**	**0.0202**	**0.0108**	**3.0000e-005**	**0.0424**	**8.1000e-004**	**0.0432**	**4.5800e-003**	**8.1000e-004**	**5.3900e-003**	**0.0000**	**2.3755**	**2.3755**	**2.6000e-004**	**0.0000**	**2.3809**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Access Roads and Canal Crossings - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.1283	0.0607	1.2000e-004		5.9700e-003	5.9700e-003		5.5000e-003	5.5000e-003	0.0000	11.5464	11.5464	3.4800e-003	0.0000	11.6195
Total	**0.0109**	**0.1283**	**0.0607**	**1.2000e-004**	**2.6500e-003**	**5.9700e-003**	**8.6200e-003**	**2.9000e-004**	**5.5000e-003**	**5.7900e-003**	**0.0000**	**11.5464**	**11.5464**	**3.4800e-003**	**0.0000**	**11.6195**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.3000e-004	3.0400e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3573	0.3573	2.0000e-005	0.0000	0.3578
Total	**2.5000e-004**	**3.3000e-004**	**3.0400e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3573**	**0.3573**	**2.0000e-005**	**0.0000**	**0.3578**

3.6 Access Roads and Canal Crossings - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.1283	0.0607	1.2000e-004		5.9700e-003	5.9700e-003		5.5000e-003	5.5000e-003	0.0000	11.5464	11.5464	3.4800e-003	0.0000	11.6195
Total	**0.0109**	**0.1283**	**0.0607**	**1.2000e-004**	**2.6500e-003**	**5.9700e-003**	**8.6200e-003**	**2.9000e-004**	**5.5000e-003**	**5.7900e-003**	**0.0000**	**11.5464**	**11.5464**	**3.4800e-003**	**0.0000**	**11.6195**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.3000e-004	3.0400e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3573	0.3573	2.0000e-005	0.0000	0.3578
Total	**2.5000e-004**	**3.3000e-004**	**3.0400e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3573**	**0.3573**	**2.0000e-005**	**0.0000**	**0.3578**

3.7 Erosion & Sediment Control - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	3.9900e-003	3.7500e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.5180	0.5180	1.6000e-004	0.0000	0.5213
Total	**3.1000e-004**	**3.9900e-003**	**3.7500e-003**	**1.0000e-005**	**5.3000e-003**	**2.2000e-004**	**5.5200e-003**	**5.7000e-004**	**2.0000e-004**	**7.7000e-004**	**0.0000**	**0.5180**	**0.5180**	**1.6000e-004**	**0.0000**	**0.5213**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Erosion & Sediment Control - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	3.9900e-003	3.7500e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.5180	0.5180	1.6000e-004	0.0000	0.5213
Total	**3.1000e-004**	**3.9900e-003**	**3.7500e-003**	**1.0000e-005**	**5.3000e-003**	**2.2000e-004**	**5.5200e-003**	**5.7000e-004**	**2.0000e-004**	**7.7000e-004**	**0.0000**	**0.5180**	**0.5180**	**1.6000e-004**	**0.0000**	**0.5213**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Fencing - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	5.2900e-003	3.7800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.7000e-004	2.7000e-004	0.0000	0.6198	0.6198	1.3000e-004	0.0000	0.6225
Total	**6.6000e-004**	**5.2900e-003**	**3.7800e-003**	**1.0000e-005**	**2.6500e-003**	**2.8000e-004**	**2.9300e-003**	**2.9000e-004**	**2.7000e-004**	**5.6000e-004**	**0.0000**	**0.6198**	**0.6198**	**1.3000e-004**	**0.0000**	**0.6225**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Fencing - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	5.2900e-003	3.7800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.7000e-004	2.7000e-004	0.0000	0.6198	0.6198	1.3000e-004	0.0000	0.6225
Total	**6.6000e-004**	**5.2900e-003**	**3.7800e-003**	**1.0000e-005**	**2.6500e-003**	**2.8000e-004**	**2.9300e-003**	**2.9000e-004**	**2.7000e-004**	**5.6000e-004**	**0.0000**	**0.6198**	**0.6198**	**1.3000e-004**	**0.0000**	**0.6225**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 Driven Piles - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0267	0.1780	0.1465	1.7000e-004		0.0134	0.0134		0.0123	0.0123	0.0000	16.3558	16.3558	4.8800e-003	0.0000	16.4582
Total	**0.0267**	**0.1780**	**0.1465**	**1.7000e-004**		**0.0134**	**0.0134**		**0.0123**	**0.0123**	**0.0000**	**16.3558**	**16.3558**	**4.8800e-003**	**0.0000**	**16.4582**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	1.3800e-003	0.0127	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4886	1.4886	1.0000e-004	0.0000	1.4907
Total	**1.0500e-003**	**1.3800e-003**	**0.0127**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7100e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4886**	**1.4886**	**1.0000e-004**	**0.0000**	**1.4907**

3.9 Driven Piles - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0267	0.1780	0.1465	1.7000e-004		0.0134	0.0134		0.0123	0.0123	0.0000	16.3558	16.3558	4.8800e-003	0.0000	16.4582
Total	**0.0267**	**0.1780**	**0.1465**	**1.7000e-004**		**0.0134**	**0.0134**		**0.0123**	**0.0123**	**0.0000**	**16.3558**	**16.3558**	**4.8800e-003**	**0.0000**	**16.4582**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	1.3800e-003	0.0127	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4886	1.4886	1.0000e-004	0.0000	1.4907
Total	**1.0500e-003**	**1.3800e-003**	**0.0127**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7100e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4886**	**1.4886**	**1.0000e-004**	**0.0000**	**1.4907**

3.10 Drive Motor Foundations - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	3.3100e-003	0.0398	0.0175	6.0000e-005		1.5400e-003	1.5400e-003		1.4300e-003	1.4300e-003	0.0000	5.6126	5.6126	1.6200e-003	0.0000	5.6466
Total	**3.3100e-003**	**0.0398**	**0.0175**	**6.0000e-005**		**1.5400e-003**	**1.5400e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**5.6126**	**5.6126**	**1.6200e-003**	**0.0000**	**5.6466**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.10 Drive Motor Foundations - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	3.3100e-003	0.0398	0.0175	6.0000e-005		1.5400e-003	1.5400e-003		1.4300e-003	1.4300e-003	0.0000	5.6126	5.6126	1.6200e-003	0.0000	5.6466
Total	**3.3100e-003**	**0.0398**	**0.0175**	**6.0000e-005**		**1.5400e-003**	**1.5400e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**5.6126**	**5.6126**	**1.6200e-003**	**0.0000**	**5.6466**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.11 AC Station Foundations - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	1.0600e-003	0.0104	7.9200e-003	1.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	1.0164	1.0164	3.0000e-004	0.0000	1.0226
Total	**1.0600e-003**	**0.0104**	**7.9200e-003**	**1.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**1.0164**	**1.0164**	**3.0000e-004**	**0.0000**	**1.0226**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.11 AC Station Foundations - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	1.0600e-003	0.0104	7.9200e-003	1.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	1.0164	1.0164	3.0000e-004	0.0000	1.0226
Total	**1.0600e-003**	**0.0104**	**7.9200e-003**	**1.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**1.0164**	**1.0164**	**3.0000e-004**	**0.0000**	**1.0226**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 Metal Erection - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	2.2500e-003	0.0176	0.0113	2.0000e-005		1.3000e-003	1.3000e-003		1.2100e-003	1.2100e-003	0.0000	1.4747	1.4747	3.5000e-004	0.0000	1.4820
Total	**2.2500e-003**	**0.0176**	**0.0113**	**2.0000e-005**		**1.3000e-003**	**1.3000e-003**		**1.2100e-003**	**1.2100e-003**	**0.0000**	**1.4747**	**1.4747**	**3.5000e-004**	**0.0000**	**1.4820**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 Metal Erection - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	2.2500e-003	0.0176	0.0113	2.0000e-005		1.3000e-003	1.3000e-003		1.2100e-003	1.2100e-003	0.0000	1.4747	1.4747	3.5000e-004	0.0000	1.4820
Total	**2.2500e-003**	**0.0176**	**0.0113**	**2.0000e-005**		**1.3000e-003**	**1.3000e-003**		**1.2100e-003**	**1.2100e-003**	**0.0000**	**1.4747**	**1.4747**	**3.5000e-004**	**0.0000**	**1.4820**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Cable Tray - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	1.1900e-003	9.5600e-003	5.9600e-003	1.0000e-005		7.1000e-004	7.1000e-004		6.6000e-004	6.6000e-004	0.0000	0.7937	0.7937	1.9000e-004	0.0000	0.7978
Total	**1.1900e-003**	**9.5600e-003**	**5.9600e-003**	**1.0000e-005**		**7.1000e-004**	**7.1000e-004**		**6.6000e-004**	**6.6000e-004**	**0.0000**	**0.7937**	**0.7937**	**1.9000e-004**	**0.0000**	**0.7978**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Cable Tray - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	1.1900e-003	9.5600e-003	5.9600e-003	1.0000e-005		7.1000e-004	7.1000e-004		6.6000e-004	6.6000e-004	0.0000	0.7937	0.7937	1.9000e-004	0.0000	0.7978
Total	**1.1900e-003**	**9.5600e-003**	**5.9600e-003**	**1.0000e-005**		**7.1000e-004**	**7.1000e-004**		**6.6000e-004**	**6.6000e-004**	**0.0000**	**0.7937**	**0.7937**	**1.9000e-004**	**0.0000**	**0.7978**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.14 MV & Fiber Underground - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	6.0300e-003	0.0561	0.0403	5.0000e-005		4.4100e-003	4.4100e-003		4.0600e-003	4.0600e-003	0.0000	4.8344	4.8344	1.4600e-003	0.0000	4.8650
Total	**6.0300e-003**	**0.0561**	**0.0403**	**5.0000e-005**		**4.4100e-003**	**4.4100e-003**		**4.0600e-003**	**4.0600e-003**	**0.0000**	**4.8344**	**4.8344**	**1.4600e-003**	**0.0000**	**4.8650**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.9000e-004	2.6300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3096	0.3096	2.0000e-005	0.0000	0.3101
Total	**2.2000e-004**	**2.9000e-004**	**2.6300e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3096**	**0.3096**	**2.0000e-005**	**0.0000**	**0.3101**

3.14 MV & Fiber Underground - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	6.0300e-003	0.0561	0.0403	5.0000e-005		4.4100e-003	4.4100e-003		4.0600e-003	4.0600e-003	0.0000	4.8344	4.8344	1.4600e-003	0.0000	4.8650
Total	**6.0300e-003**	**0.0561**	**0.0403**	**5.0000e-005**		**4.4100e-003**	**4.4100e-003**		**4.0600e-003**	**4.0600e-003**	**0.0000**	**4.8344**	**4.8344**	**1.4600e-003**	**0.0000**	**4.8650**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.9000e-004	2.6300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3096	0.3096	2.0000e-005	0.0000	0.3101
Total	**2.2000e-004**	**2.9000e-004**	**2.6300e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3096**	**0.3096**	**2.0000e-005**	**0.0000**	**0.3101**

3.15 DC & Drive Motor Underground - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.0949	0.0682	9.0000e-005		7.4600e-003	7.4600e-003		6.8700e-003	6.8700e-003	0.0000	8.1812	8.1812	2.4700e-003	0.0000	8.2330
Total	**0.0102**	**0.0949**	**0.0682**	**9.0000e-005**		**7.4600e-003**	**7.4600e-003**		**6.8700e-003**	**6.8700e-003**	**0.0000**	**8.1812**	**8.1812**	**2.4700e-003**	**0.0000**	**8.2330**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	4.9000e-004	4.4500e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5240	0.5240	3.0000e-005	0.0000	0.5247
Total	**3.7000e-004**	**4.9000e-004**	**4.4500e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5240**	**0.5240**	**3.0000e-005**	**0.0000**	**0.5247**

3.15 DC & Drive Motor Underground - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.0949	0.0682	9.0000e-005		7.4600e-003	7.4600e-003		6.8700e-003	6.8700e-003	0.0000	8.1812	8.1812	2.4700e-003	0.0000	8.2330
Total	**0.0102**	**0.0949**	**0.0682**	**9.0000e-005**		**7.4600e-003**	**7.4600e-003**		**6.8700e-003**	**6.8700e-003**	**0.0000**	**8.1812**	**8.1812**	**2.4700e-003**	**0.0000**	**8.2330**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	4.9000e-004	4.4500e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5240	0.5240	3.0000e-005	0.0000	0.5247
Total	**3.7000e-004**	**4.9000e-004**	**4.4500e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5240**	**0.5240**	**3.0000e-005**	**0.0000**	**0.5247**

3.16 PV Install - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0346	0.0228	4.0000e-005		2.5600e-003	2.5600e-003		2.4000e-003	2.4000e-003	0.0000	2.9104	2.9104	6.7000e-004	0.0000	2.9244
Total	**4.5200e-003**	**0.0346**	**0.0228**	**4.0000e-005**		**2.5600e-003**	**2.5600e-003**		**2.4000e-003**	**2.4000e-003**	**0.0000**	**2.9104**	**2.9104**	**6.7000e-004**	**0.0000**	**2.9244**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.16 PV Install - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0346	0.0228	4.0000e-005		2.5600e-003	2.5600e-003		2.4000e-003	2.4000e-003	0.0000	2.9104	2.9104	6.7000e-004	0.0000	2.9244
Total	**4.5200e-003**	**0.0346**	**0.0228**	**4.0000e-005**		**2.5600e-003**	**2.5600e-003**		**2.4000e-003**	**2.4000e-003**	**0.0000**	**2.9104**	**2.9104**	**6.7000e-004**	**0.0000**	**2.9244**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.17 O&M Building - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0238	0.2711	0.1485	3.3000e-004		0.0133	0.0133		0.0123	0.0123	0.0000	30.8089	30.8089	8.9700e-003	0.0000	30.9973
Total	**0.0238**	**0.2711**	**0.1485**	**3.3000e-004**		**0.0133**	**0.0133**		**0.0123**	**0.0123**	**0.0000**	**30.8089**	**30.8089**	**8.9700e-003**	**0.0000**	**30.9973**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.17 O&M Building - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0238	0.2711	0.1485	3.3000e-004		0.0133	0.0133		0.0123	0.0123	0.0000	30.8089	30.8089	8.9700e-003	0.0000	30.9973
Total	**0.0238**	**0.2711**	**0.1485**	**3.3000e-004**		**0.0133**	**0.0133**		**0.0123**	**0.0123**	**0.0000**	**30.8089**	**30.8089**	**8.9700e-003**	**0.0000**	**30.9973**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.18 Substation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0421	0.4093	0.3045	4.0000e-004		0.0222	0.0222		0.0205	0.0205	0.0000	36.6599	36.6599	0.0107	0.0000	36.8848
Total	**0.0421**	**0.4093**	**0.3045**	**4.0000e-004**		**0.0222**	**0.0222**		**0.0205**	**0.0205**	**0.0000**	**36.6599**	**36.6599**	**0.0107**	**0.0000**	**36.8848**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.18 Substation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0421	0.4093	0.3045	4.0000e-004		0.0222	0.0222		0.0205	0.0205	0.0000	36.6599	36.6599	0.0107	0.0000	36.8848
Total	**0.0421**	**0.4093**	**0.3045**	**4.0000e-004**		**0.0222**	**0.0222**		**0.0205**	**0.0205**	**0.0000**	**36.6599**	**36.6599**	**0.0107**	**0.0000**	**36.8848**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.19 AC Stations Final - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	6.4400e-003	0.0767	0.0531	7.0000e-005		3.7500e-003	3.7500e-003		3.4500e-003	3.4500e-003	0.0000	6.3808	6.3808	1.9200e-003	0.0000	6.4213
Total	**6.4400e-003**	**0.0767**	**0.0531**	**7.0000e-005**		**3.7500e-003**	**3.7500e-003**		**3.4500e-003**	**3.4500e-003**	**0.0000**	**6.3808**	**6.3808**	**1.9200e-003**	**0.0000**	**6.4213**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.19 AC Stations Final - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	6.4400e-003	0.0767	0.0531	7.0000e-005		3.7500e-003	3.7500e-003		3.4500e-003	3.4500e-003	0.0000	6.3808	6.3808	1.9200e-003	0.0000	6.4213
Total	**6.4400e-003**	**0.0767**	**0.0531**	**7.0000e-005**		**3.7500e-003**	**3.7500e-003**		**3.4500e-003**	**3.4500e-003**	**0.0000**	**6.3808**	**6.3808**	**1.9200e-003**	**0.0000**	**6.4213**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.20 String Wire Connections - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	6.8000e-004	5.5400e-003	3.4700e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	0.4525	0.4525	1.1000e-004	0.0000	0.4549
Total	**6.8000e-004**	**5.5400e-003**	**3.4700e-003**	**1.0000e-005**		**4.2000e-004**	**4.2000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**0.4525**	**0.4525**	**1.1000e-004**	**0.0000**	**0.4549**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.20 String Wire Connections - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	6.8000e-004	5.5400e-003	3.4700e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	0.4525	0.4525	1.1000e-004	0.0000	0.4548
Total	**6.8000e-004**	**5.5400e-003**	**3.4700e-003**	**1.0000e-005**		**4.2000e-004**	**4.2000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**0.4525**	**0.4525**	**1.1000e-004**	**0.0000**	**0.4548**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.21 Landscaping - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	1.5200e-003	0.0134	0.0130	2.0000e-005		8.4000e-004	8.4000e-004		7.8000e-004	7.8000e-004	0.0000	1.6058	1.6058	4.8000e-004	0.0000	1.6160
Total	**1.5200e-003**	**0.0134**	**0.0130**	**2.0000e-005**		**8.4000e-004**	**8.4000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**1.6058**	**1.6058**	**4.8000e-004**	**0.0000**	**1.6160**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.21 Landscaping - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	1.5200e-003	0.0134	0.0130	2.0000e-005		8.4000e-004	8.4000e-004		7.8000e-004	7.8000e-004	0.0000	1.6058	1.6058	4.8000e-004	0.0000	1.6160
Total	**1.5200e-003**	**0.0134**	**0.0130**	**2.0000e-005**		**8.4000e-004**	**8.4000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**1.6058**	**1.6058**	**4.8000e-004**	**0.0000**	**1.6160**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381242	0.051506	0.131993	0.171755	0.050399	0.005962	0.014271	0.178323	0.001993	0.002277	0.007093	0.001136	0.002050

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX A CalEEMod Outputs

A.2 Onsite Truck Emissions

Sunpower Java Solar IS/MND Construction - On-Site Trucks

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	90.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2017
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 - Solar Panel Farm.

Construction Phase - Total days values from developer.

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Value from developer

Off-road Equipment - Gators

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Trips and VMT - Values from developer. Trip lengths are 54% of Luis lengths.

On-road Fugitive Dust -

Grading - Estimate for 90 acre site.

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	1,550.00	38.00
tblConstructionPhase	NumDays	1,550.00	10.00

tblConstructionPhase	NumDays	1,550.00	25.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	8.5500e-003	0.1363	0.0619	3.6000e-004	0.1007	2.7300e-003	0.1035	0.0128	2.5100e-003	0.0153	0.0000	33.2169	33.2169	2.6000e-004	0.0000	33.2224
Total	**8.5500e-003**	**0.1363**	**0.0619**	**3.6000e-004**	**0.1007**	**2.7300e-003**	**0.1035**	**0.0128**	**2.5100e-003**	**0.0153**	**0.0000**	**33.2169**	**33.2169**	**2.6000e-004**	**0.0000**	**33.2224**

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	8.5500e-003	0.1363	0.0619	3.6000e-004	0.1007	2.7300e-003	0.1035	0.0128	2.5100e-003	0.0153	0.0000	33.2169	33.2169	2.6000e-004	0.0000	33.2224
Total	**8.5500e-003**	**0.1363**	**0.0619**	**3.6000e-004**	**0.1007**	**2.7300e-003**	**0.1035**	**0.0128**	**2.5100e-003**	**0.0153**	**0.0000**	**33.2169**	**33.2169**	**2.6000e-004**	**0.0000**	**33.2224**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2016	2/12/2016	5	30	
2	General Conditions	Site Preparation	1/5/2016	3/14/2016	5	50	
3	Access Roads and Canal Crossings	Site Preparation	1/10/2016	1/26/2016	5	12	
4	Fencing	Site Preparation	1/20/2016	1/26/2016	5	5	
5	Driven Piles	Building Construction	2/1/2016	3/4/2016	5	25	
6	Drive Motor Foundations	Building Construction	2/15/2016	3/1/2016	5	12	
7	AC Station Foundations	Building Construction	3/1/2016	3/7/2016	5	5	
8	Metal Erection	Building Construction	3/3/2016	3/18/2016	5	12	
9	MV & Fiber Underground	Trenching	3/15/2016	3/31/2016	5	13	
10	DC & Drive Motor Underground	Building Construction	3/15/2016	4/13/2016	5	22	
11	PV Install	Building Construction	4/1/2016	5/2/2016	5	22	
12	Substation	Building Construction	4/2/2016	5/25/2016	5	38	
13	String Wire Connections	Building Construction	4/20/2016	5/3/2016	5	10	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	0	7.00	276	0.43
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Rubber Tired Loaders	0	7.00	205	0.36
Site Preparation	Skid Steer Loaders	0	7.00	79	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	7.00	111	0.37

General Conditions	Dumpers/Tenders	0	2.50	22	0.38
General Conditions	Rubber Tired Dozers	0	8.00	255	0.40
General Conditions	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Access Roads and Canal Crossings	Graders	0	7.00	209	0.41
Access Roads and Canal Crossings	Pavers	0	4.00	102	0.42
Access Roads and Canal Crossings	Rollers	0	4.00	80	0.38
Access Roads and Canal Crossings	Rubber Tired Dozers	0	8.00	255	0.40
Access Roads and Canal Crossings	Rubber Tired Loaders	0	7.00	271	0.36
Access Roads and Canal Crossings	Skid Steer Loaders	0	7.00	79	0.37
Access Roads and Canal Crossings	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fencing	Generator Sets	0	7.00	22	0.74
Fencing	Rubber Tired Dozers	0	8.00	255	0.40
Fencing	Skid Steer Loaders	0	4.00	79	0.37
Fencing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Driven Piles	Bore/Drill Rigs	0	7.00	48	0.50
Driven Piles	Cranes	0	7.00	226	0.29
Driven Piles	Dumpers/Tenders	0	2.50	22	0.38
Driven Piles	Forklifts	0	7.00	110	0.20
Driven Piles	Generator Sets	0	8.00	84	0.74
Driven Piles	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Driven Piles	Welders	0	8.00	46	0.45
Drive Motor Foundations	Bore/Drill Rigs	0	7.00	227	0.50
Drive Motor Foundations	Cranes	0	7.00	226	0.29
Drive Motor Foundations	Dumpers/Tenders	0	2.50	22	0.38
Drive Motor Foundations	Forklifts	0	3.00	110	0.20
Drive Motor Foundations	Generator Sets	0	8.00	84	0.74
Drive Motor Foundations	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Drive Motor Foundations	Welders	0	4.00	23	0.45

AC Station Foundations	Cranes	0	7.00	226	0.29
AC Station Foundations	Dumpers/Tenders	0	2.50	22	0.38
AC Station Foundations	Forklifts	0	8.00	89	0.20
AC Station Foundations	Generator Sets	0	8.00	84	0.74
AC Station Foundations	Skid Steer Loaders	0	3.00	79	0.37
AC Station Foundations	Tractors/Loaders/Backhoes	0	7.00	111	0.37
AC Station Foundations	Welders	0	8.00	46	0.45
Metal Erection	Air Compressors	0	6.00	13	0.48
Metal Erection	Cranes	0	7.00	226	0.29
Metal Erection	Dumpers/Tenders	0	5.00	22	0.38
Metal Erection	Forklifts	0	7.00	110	0.20
Metal Erection	Generator Sets	0	8.00	84	0.74
Metal Erection	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Metal Erection	Welders	0	8.00	46	0.45
MV & Fiber Underground	Forklifts	0	7.00	110	0.20
MV & Fiber Underground	Tractors/Loaders/Backhoes	0	7.00	111	0.37
DC & Drive Motor Underground	Cranes	0	7.00	226	0.29
DC & Drive Motor Underground	Forklifts	0	7.00	110	0.20
DC & Drive Motor Underground	Generator Sets	0	8.00	84	0.74
DC & Drive Motor Underground	Tractors/Loaders/Backhoes	0	7.00	111	0.37
DC & Drive Motor Underground	Welders	0	8.00	46	0.45
PV Install	Air Compressors	0	6.00	13	0.48
PV Install	Cranes	0	7.00	226	0.29
PV Install	Dumpers/Tenders	0	2.50	22	0.38
PV Install	Forklifts	0	7.00	110	0.20
PV Install	Generator Sets	0	8.00	84	0.74
PV Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
PV Install	Welders	0	8.00	46	0.45

Substation	Aerial Lifts	0	7.00	29	0.31
Substation	Air Compressors	0	4.00	13	0.48
Substation	Cranes	0	7.00	478	0.29
Substation	Cranes	0	7.00	31	0.29
Substation	Excavators	0	7.00	38	0.38
Substation	Forklifts	0	4.00	110	0.20
Substation	Generator Sets	0	4.00	22	0.74
Substation	Skid Steer Loaders	0	7.00	79	0.37
Substation	Tractors/Loaders/Backhoes	0	7.00	111	0.37
Substation	Welders	0	8.00	46	0.45
String Wire Connections	Cranes	0	7.00	226	0.29
String Wire Connections	Dumpers/Tenders	0	2.50	22	0.38
String Wire Connections	Forklifts	0	3.00	110	0.20
String Wire Connections	Generator Sets	0	8.00	84	0.74
String Wire Connections	Tractors/Loaders/Backhoes	0	7.00	97	0.37
String Wire Connections	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	0.00	2.00	0.00	0.00	6.75	10.80	LD_Mix	HDT_Mix	HHDT
General Conditions	4	0.00	0.00	8.00	9.10	7.86	20.00	LD_Mix	HDT_Mix	HHDT
Access Roads and Canal Crossings	6	0.00	2.00	4.00	9.10	7.86	43.20	LD_Mix	HDT_Mix	HHDT
Fencing	2	0.00	2.00	0.00	9.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
Driven Piles	8	0.00	2.00	0.00	9.10	6.60	10.80	LD_Mix	HDT_Mix	HHDT
Drive Motor Foundations	4	0.00	0.00	4.00	9.10	6.60	18.90	LD_Mix	HDT_Mix	HHDT
AC Station Foundations	3	0.00	2.00	0.00	9.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
Metal Erection	3	0.00	2.00	0.00	9.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
MV & Fiber Underground	3	0.00	2.00	0.00	9.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
DC & Drive Motor Underground	3	0.00	2.00	0.00	9.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
PV Install	4	0.00	0.00	0.00	0.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Substation	9	0.00	4.00	6.00	9.10	138.00	37.80	LD_Mix	HDT_Mix	HHDT
String Wire Connections	2	0.00	4.00	0.00	9.10	6.53	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	2.9000e-003	3.9800e-003	1.0000e-005	1.8000e-004	5.0000e-005	2.3000e-004	5.0000e-005	5.0000e-005	1.0000e-004	0.0000	0.6054	0.6054	1.0000e-005	0.0000	0.6055
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7000e-004**	**2.9000e-003**	**3.9800e-003**	**1.0000e-005**	**1.8000e-004**	**5.0000e-005**	**2.3000e-004**	**5.0000e-005**	**5.0000e-005**	**1.0000e-004**	**0.0000**	**0.6054**	**0.6054**	**1.0000e-005**	**0.0000**	**0.6055**

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	2.9000e-003	3.9800e-003	1.0000e-005	1.8000e-004	5.0000e-005	2.3000e-004	5.0000e-005	5.0000e-005	1.0000e-004	0.0000	0.6054	0.6054	1.0000e-005	0.0000	0.6055
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7000e-004**	**2.9000e-003**	**3.9800e-003**	**1.0000e-005**	**1.8000e-004**	**5.0000e-005**	**2.3000e-004**	**5.0000e-005**	**5.0000e-005**	**1.0000e-004**	**0.0000**	**0.6054**	**0.6054**	**1.0000e-005**	**0.0000**	**0.6055**

3.3 General Conditions - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	1.0800e-003	8.6000e-004	0.0000	7.0000e-005	2.0000e-005	9.0000e-005	2.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.2737	0.2737	0.0000	0.0000	0.2738
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.0000e-005**	**1.0800e-003**	**8.6000e-004**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**9.0000e-005**	**2.0000e-005**	**2.0000e-005**	**3.0000e-005**	**0.0000**	**0.2737**	**0.2737**	**0.0000**	**0.0000**	**0.2738**

3.3 General Conditions - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	1.0800e-003	8.6000e-004	0.0000	7.0000e-005	2.0000e-005	9.0000e-005	2.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.2737	0.2737	0.0000	0.0000	0.2738
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.0000e-005**	**1.0800e-003**	**8.6000e-004**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**9.0000e-005**	**2.0000e-005**	**2.0000e-005**	**3.0000e-005**	**0.0000**	**0.2737**	**0.2737**	**0.0000**	**0.0000**	**0.2738**

3.4 Access Roads and Canal Crossings - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	1.1100e-003	5.6000e-004	0.0000	7.0000e-005	2.0000e-005	9.0000e-005	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.2920	0.2920	0.0000	0.0000	0.2920
Vendor	1.5000e-004	1.3100e-003	1.6300e-003	0.0000	8.0000e-005	2.0000e-005	1.1000e-004	2.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.2789	0.2789	0.0000	0.0000	0.2789
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2000e-004**	**2.4200e-003**	**2.1900e-003**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**2.0000e-004**	**4.0000e-005**	**4.0000e-005**	**9.0000e-005**	**0.0000**	**0.5709**	**0.5709**	**0.0000**	**0.0000**	**0.5710**

3.4 Access Roads and Canal Crossings - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	1.1100e-003	5.6000e-004	0.0000	7.0000e-005	2.0000e-005	9.0000e-005	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.2920	0.2920	0.0000	0.0000	0.2920
Vendor	1.5000e-004	1.3100e-003	1.6300e-003	0.0000	8.0000e-005	2.0000e-005	1.1000e-004	2.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.2789	0.2789	0.0000	0.0000	0.2789
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2000e-004**	**2.4200e-003**	**2.1900e-003**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**2.0000e-004**	**4.0000e-005**	**4.0000e-005**	**9.0000e-005**	**0.0000**	**0.5709**	**0.5709**	**0.0000**	**0.0000**	**0.5710**

3.5 Fencing - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	5.4000e-004	6.8000e-004	0.0000	4.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1162	0.1162	0.0000	0.0000	0.1162
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0000e-005**	**5.4000e-004**	**6.8000e-004**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1162**	**0.1162**	**0.0000**	**0.0000**	**0.1162**

3.5 Fencing - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	5.4000e-004	6.8000e-004	0.0000	4.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1162	0.1162	0.0000	0.0000	0.1162
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0000e-005**	**5.4000e-004**	**6.8000e-004**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1162**	**0.1162**	**0.0000**	**0.0000**	**0.1162**

3.6 Driven Piles - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	2.3700e-003	3.3100e-003	1.0000e-005	1.5000e-004	4.0000e-005	1.9000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.4941	0.4941	0.0000	0.0000	0.4942
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0000e-004**	**2.3700e-003**	**3.3100e-003**	**1.0000e-005**	**1.5000e-004**	**4.0000e-005**	**1.9000e-004**	**4.0000e-005**	**4.0000e-005**	**8.0000e-005**	**0.0000**	**0.4941**	**0.4941**	**0.0000**	**0.0000**	**0.4942**

3.6 Driven Piles - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	2.3700e-003	3.3100e-003	1.0000e-005	1.5000e-004	4.0000e-005	1.9000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.4941	0.4941	0.0000	0.0000	0.4942
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0000e-004**	**2.3700e-003**	**3.3100e-003**	**1.0000e-005**	**1.5000e-004**	**4.0000e-005**	**1.9000e-004**	**4.0000e-005**	**4.0000e-005**	**8.0000e-005**	**0.0000**	**0.4941**	**0.4941**	**0.0000**	**0.0000**	**0.4942**

3.7 Drive Motor Foundations - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	5.1000e-004	4.3000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1295	0.1295	0.0000	0.0000	0.1295
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0000e-005**	**5.1000e-004**	**4.3000e-004**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1295**	**0.1295**	**0.0000**	**0.0000**	**0.1295**

3.7 Drive Motor Foundations - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	5.1000e-004	4.3000e-004	0.0000	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1295	0.1295	0.0000	0.0000	0.1295
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0000e-005**	**5.1000e-004**	**4.3000e-004**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1295**	**0.1295**	**0.0000**	**0.0000**	**0.1295**

3.8 AC Station Foundations - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	5.4000e-004	6.8000e-004	0.0000	4.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1162	0.1162	0.0000	0.0000	0.1162
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0000e-005**	**5.4000e-004**	**6.8000e-004**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1162**	**0.1162**	**0.0000**	**0.0000**	**0.1162**

3.8 AC Station Foundations - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	5.4000e-004	6.8000e-004	0.0000	4.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1162	0.1162	0.0000	0.0000	0.1162
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0000e-005**	**5.4000e-004**	**6.8000e-004**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1162**	**0.1162**	**0.0000**	**0.0000**	**0.1162**

3.9 Metal Erection - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	1.3100e-003	1.6300e-003	0.0000	8.0000e-005	2.0000e-005	1.1000e-004	2.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.2789	0.2789	0.0000	0.0000	0.2789
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5000e-004**	**1.3100e-003**	**1.6300e-003**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**1.1000e-004**	**2.0000e-005**	**2.0000e-005**	**5.0000e-005**	**0.0000**	**0.2789**	**0.2789**	**0.0000**	**0.0000**	**0.2789**

3.9 Metal Erection - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	1.3100e-003	1.6300e-003	0.0000	8.0000e-005	2.0000e-005	1.1000e-004	2.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.2789	0.2789	0.0000	0.0000	0.2789
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5000e-004**	**1.3100e-003**	**1.6300e-003**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**1.1000e-004**	**2.0000e-005**	**2.0000e-005**	**5.0000e-005**	**0.0000**	**0.2789**	**0.2789**	**0.0000**	**0.0000**	**0.2789**

3.10 MV & Fiber Underground - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	1.4200e-003	1.7700e-003	0.0000	9.0000e-005	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3021	0.3021	0.0000	0.0000	0.3022
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.7000e-004**	**1.4200e-003**	**1.7700e-003**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**1.2000e-004**	**3.0000e-005**	**2.0000e-005**	**5.0000e-005**	**0.0000**	**0.3021**	**0.3021**	**0.0000**	**0.0000**	**0.3022**

3.10 MV & Fiber Underground - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	1.4200e-003	1.7700e-003	0.0000	9.0000e-005	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3021	0.3021	0.0000	0.0000	0.3022
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.7000e-004**	**1.4200e-003**	**1.7700e-003**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**1.2000e-004**	**3.0000e-005**	**2.0000e-005**	**5.0000e-005**	**0.0000**	**0.3021**	**0.3021**	**0.0000**	**0.0000**	**0.3022**

3.11 DC & Drive Motor Underground - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8000e-004	2.3900e-003	2.9900e-003	1.0000e-005	1.6000e-004	4.0000e-005	2.0000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.5113	0.5113	0.0000	0.0000	0.5114
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8000e-004**	**2.3900e-003**	**2.9900e-003**	**1.0000e-005**	**1.6000e-004**	**4.0000e-005**	**2.0000e-004**	**4.0000e-005**	**4.0000e-005**	**8.0000e-005**	**0.0000**	**0.5113**	**0.5113**	**0.0000**	**0.0000**	**0.5114**

3.11 DC & Drive Motor Underground - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8000e-004	2.3900e-003	2.9900e-003	1.0000e-005	1.6000e-004	4.0000e-005	2.0000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.5113	0.5113	0.0000	0.0000	0.5114
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8000e-004**	**2.3900e-003**	**2.9900e-003**	**1.0000e-005**	**1.6000e-004**	**4.0000e-005**	**2.0000e-004**	**4.0000e-005**	**4.0000e-005**	**8.0000e-005**	**0.0000**	**0.5113**	**0.5113**	**0.0000**	**0.0000**	**0.5114**

3.12 PV Install - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 PV Install - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Substation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	1.4700e-003	7.9000e-004	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3838	0.3838	0.0000	0.0000	0.3839
Vendor	6.4600e-003	0.1175	0.0399	3.2000e-004	9.3800e-003	2.4100e-003	0.0118	2.6800e-003	2.2200e-003	4.9000e-003	0.0000	29.0433	29.0433	2.3000e-004	0.0000	29.0481
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5500e-003**	**0.1189**	**0.0407**	**3.2000e-004**	**9.4800e-003**	**2.4300e-003**	**0.0119**	**2.7100e-003**	**2.2400e-003**	**4.9500e-003**	**0.0000**	**29.4271**	**29.4271**	**2.3000e-004**	**0.0000**	**29.4319**

3.13 Substation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	1.4700e-003	7.9000e-004	0.0000	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3838	0.3838	0.0000	0.0000	0.3839
Vendor	6.4600e-003	0.1175	0.0399	3.2000e-004	9.3800e-003	2.4100e-003	0.0118	2.6800e-003	2.2200e-003	4.9000e-003	0.0000	29.0433	29.0433	2.3000e-004	0.0000	29.0481
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5500e-003**	**0.1189**	**0.0407**	**3.2000e-004**	**9.4800e-003**	**2.4300e-003**	**0.0119**	**2.7100e-003**	**2.2400e-003**	**4.9500e-003**	**0.0000**	**29.4271**	**29.4271**	**2.3000e-004**	**0.0000**	**29.4319**

3.14 String Wire Connections - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	1.8800e-003	2.6400e-003	0.0000	1.2000e-004	3.0000e-005	1.5000e-004	3.0000e-005	3.0000e-005	6.0000e-005	0.0000	0.3915	0.3915	0.0000	0.0000	0.3915
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4000e-004**	**1.8800e-003**	**2.6400e-003**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**1.5000e-004**	**3.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**0.3915**	**0.3915**	**0.0000**	**0.0000**	**0.3915**

3.14 String Wire Connections - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	1.8800e-003	2.6400e-003	0.0000	1.2000e-004	3.0000e-005	1.5000e-004	3.0000e-005	3.0000e-005	6.0000e-005	0.0000	0.3915	0.3915	0.0000	0.0000	0.3915
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4000e-004**	**1.8800e-003**	**2.6400e-003**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**1.5000e-004**	**3.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**0.3915**	**0.3915**	**0.0000**	**0.0000**	**0.3915**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381242	0.051506	0.131993	0.171755	0.050399	0.005962	0.014271	0.178323	0.001993	0.002277	0.007093	0.001136	0.002050

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX A CalEEMod Outputs

A.3 Onsite Delivery Trips Emissions

Sunpower Java Solar IS/MND Construction - Delivery On-Site Travel

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	90.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2017
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 - Solar Panel Farm.

Construction Phase - Total days values from developer.

Off-road Equipment - Values from developer

Off-road Equipment - Gators

Trips and VMT - Values from developer.

On-road Fugitive Dust -

Grading - Estimate for 90 acre site.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	60.00	50.00
tblGrading	AcresOfGrading	0.00	80.00
tblLandUse	LotAcreage	0.00	90.00
tblOffRoadEquipment	HorsePower	16.00	22.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	PhaseName		General Conditions
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	0.54
tblTripsAndVMT	HaulingTripNumber	0.00	292.00
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	WorkerTripLength	16.80	9.10
tblTripsAndVMT	WorkerTripNumber	10.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	1.4900e-003	4.3400e-003	0.0238	1.0000e-005	0.0425	2.0000e-005	0.0425	4.6000e-003	2.0000e-005	4.6200e-003	0.0000	0.4951	0.4951	1.0000e-005	0.0000	0.4953
Total	**1.4900e-003**	**4.3400e-003**	**0.0238**	**1.0000e-005**	**0.0425**	**2.0000e-005**	**0.0425**	**4.6000e-003**	**2.0000e-005**	**4.6200e-003**	**0.0000**	**0.4951**	**0.4951**	**1.0000e-005**	**0.0000**	**0.4953**

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	1.4900e-003	4.3400e-003	0.0238	1.0000e-005	0.0425	2.0000e-005	0.0425	4.6000e-003	2.0000e-005	4.6200e-003	0.0000	0.4951	0.4951	1.0000e-005	0.0000	0.4953
Total	**1.4900e-003**	**4.3400e-003**	**0.0238**	**1.0000e-005**	**0.0425**	**2.0000e-005**	**0.0425**	**4.6000e-003**	**2.0000e-005**	**4.6200e-003**	**0.0000**	**0.4951**	**0.4951**	**1.0000e-005**	**0.0000**	**0.4953**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	General Conditions	Site Preparation	1/5/2016	3/14/2016	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
General Conditions	Dumpers/Tenders	0	2.50	22	0.38
General Conditions	Rubber Tired Dozers	0	8.00	255	0.40
General Conditions	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
General Conditions	4	0.00	0.00	292.00	9.10	7.86	0.54	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 General Conditions - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	1.4900e-003	4.3400e-003	0.0238	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.4951	0.4951	1.0000e-005	0.0000	0.4953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4900e-003**	**4.3400e-003**	**0.0238**	**1.0000e-005**	**7.0000e-005**	**2.0000e-005**	**1.0000e-004**	**2.0000e-005**	**2.0000e-005**	**4.0000e-005**	**0.0000**	**0.4951**	**0.4951**	**1.0000e-005**	**0.0000**	**0.4953**

3.2 General Conditions - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	1.4900e-003	4.3400e-003	0.0238	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.4951	0.4951	1.0000e-005	0.0000	0.4953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4900e-003**	**4.3400e-003**	**0.0238**	**1.0000e-005**	**7.0000e-005**	**2.0000e-005**	**1.0000e-004**	**2.0000e-005**	**2.0000e-005**	**4.0000e-005**	**0.0000**	**0.4951**	**0.4951**	**1.0000e-005**	**0.0000**	**0.4953**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381242	0.051506	0.131993	0.171755	0.050399	0.005962	0.014271	0.178323	0.001993	0.002277	0.007093	0.001136	0.002050

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX A CalEEMod Outputs

A.4 Onsite Employee Trips Emissions

Sunpower Java Solar IS/MND Construction - Employee On-Site Travel

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	90.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2017
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 - Solar Panel Farm.

Construction Phase - Total days values from developer.

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Value from developer

Off-road Equipment - Gators

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Trips and VMT - Values from developer. Worker trip lengths are the same as Luis lengths.

On-road Fugitive Dust -

Grading - Estimate for 90 acre site.

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	1,550.00	38.00
tblConstructionPhase	NumDays	1,550.00	10.00
tblConstructionPhase	NumDays	1,550.00	25.00
tblConstructionPhase	NumDays	1,550.00	12.00
tblConstructionPhase	NumDays	60.00	30.00
tblConstructionPhase	NumDays	60.00	50.00
tblConstructionPhase	NumDays	60.00	5.00
tblConstructionPhase	PhaseEndDate	4/19/2016	5/2/2016
tblConstructionPhase	PhaseEndDate	6/23/2016	5/25/2016
tblConstructionPhase	PhaseEndDate	6/8/2016	5/3/2016

tblConstructionPhase	PhaseEndDate	3/1/2016	3/4/2016
tblConstructionPhase	PhaseEndDate	3/22/2016	3/18/2016
tblConstructionPhase	PhaseEndDate	4/22/2016	3/14/2016
tblConstructionPhase	PhaseEndDate	3/21/2016	1/26/2016
tblConstructionPhase	PhaseStartDate	3/19/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	5/3/2016	4/2/2016
tblConstructionPhase	PhaseStartDate	5/26/2016	4/20/2016
tblConstructionPhase	PhaseStartDate	1/27/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	3/5/2016	3/3/2016
tblConstructionPhase	PhaseStartDate	2/13/2016	1/5/2016
tblConstructionPhase	PhaseStartDate	3/15/2016	1/20/2016
tblGrading	AcresOfGrading	0.00	80.00
tblGrading	AcresOfGrading	0.00	80.00
tblGrading	AcresOfGrading	0.00	5.00
tblLandUse	LotAcreage	0.00	90.00
tblOffRoadEquipment	HorsePower	226.00	478.00
tblOffRoadEquipment	HorsePower	226.00	31.00
tblOffRoadEquipment	HorsePower	89.00	110.00
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tblOffRoadEquipment	HorsePower	89.00	110.00
tblOffRoadEquipment	HorsePower	89.00	110.00
tblOffRoadEquipment	HorsePower	89.00	110.00
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tblOffRoadEquipment	HorsePower	97.00	111.00
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tblOffRoadEquipment	HorsePower	162.00	38.00
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tblOffRoadEquipment	PhaseName		Substation
tblOffRoadEquipment	PhaseName		Metal Erection
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tblOffRoadEquipment	PhaseName		PV Install
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tblOffRoadEquipment	PhaseName		Driven Piles
tblOffRoadEquipment	PhaseName		Metal Erection

tblOffRoadEquipment	PhaseName		Substation
tblOffRoadEquipment	PhaseName		Fencing
tblOffRoadEquipment	PhaseName		Substation
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tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	37.80
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	VendorTripLength	6.60	6.75
tblTripsAndVMT	VendorTripLength	6.60	138.00
tblTripsAndVMT	VendorTripLength	6.60	6.53
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	WorkerTripLength	16.80	0.10
tblTripsAndVMT	WorkerTripLength	16.80	0.10
tblTripsAndVMT	WorkerTripLength	16.80	0.10
tblTripsAndVMT	WorkerTripLength	16.80	0.10

tblTripsAndVMT	WorkerTripLength	16.80	0.10
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tblTripsAndVMT	WorkerTripNumber	0.00	68.00
tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	28.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	7.9000e-003	2.0900e-003	0.0276	1.0000e-005	0.0877	3.0000e-005	0.0878	9.5100e-003	2.0000e-005	9.5300e-003	0.0000	0.7326	0.7326	1.2000e-004	0.0000	0.7351
Total	**7.9000e-003**	**2.0900e-003**	**0.0276**	**1.0000e-005**	**0.0877**	**3.0000e-005**	**0.0878**	**9.5100e-003**	**2.0000e-005**	**9.5300e-003**	**0.0000**	**0.7326**	**0.7326**	**1.2000e-004**	**0.0000**	**0.7351**

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	7.9000e-003	2.0900e-003	0.0276	1.0000e-005	0.0877	3.0000e-005	0.0878	9.5100e-003	2.0000e-005	9.5300e-003	0.0000	0.7326	0.7326	1.2000e-004	0.0000	0.7351
Total	**7.9000e-003**	**2.0900e-003**	**0.0276**	**1.0000e-005**	**0.0877**	**3.0000e-005**	**0.0878**	**9.5100e-003**	**2.0000e-005**	**9.5300e-003**	**0.0000**	**0.7326**	**0.7326**	**1.2000e-004**	**0.0000**	**0.7351**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2016	2/12/2016	5	30	
2	General Conditions	Site Preparation	1/5/2016	3/14/2016	5	50	
3	Fencing	Site Preparation	1/20/2016	1/26/2016	5	5	
4	Driven Piles	Building Construction	2/1/2016	3/4/2016	5	25	
5	Metal Erection	Building Construction	3/3/2016	3/18/2016	5	12	
6	PV Install	Building Construction	4/1/2016	5/2/2016	5	22	
7	Substation	Building Construction	4/2/2016	5/25/2016	5	38	
8	String Wire Connections	Building Construction	4/20/2016	5/3/2016	5	10	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	0	7.00	276	0.43
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Rubber Tired Loaders	0	7.00	205	0.36
Site Preparation	Skid Steer Loaders	0	7.00	79	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	7.00	111	0.37
General Conditions	Dumpers/Tenders	0	2.50	22	0.38
General Conditions	Rubber Tired Dozers	0	8.00	255	0.40
General Conditions	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fencing	Generator Sets	0	7.00	22	0.74
Fencing	Rubber Tired Dozers	0	8.00	255	0.40

Fencing	Skid Steer Loaders	0	4.00	79	0.37
Fencing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Driven Piles	Bore/Drill Rigs	0	7.00	48	0.50
Driven Piles	Cranes	0	7.00	226	0.29
Driven Piles	Dumpers/Tenders	0	2.50	22	0.38
Driven Piles	Forklifts	0	7.00	110	0.20
Driven Piles	Generator Sets	0	8.00	84	0.74
Driven Piles	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Driven Piles	Welders	0	8.00	46	0.45
Metal Erection	Air Compressors	0	6.00	13	0.48
Metal Erection	Cranes	0	7.00	226	0.29
Metal Erection	Dumpers/Tenders	0	5.00	22	0.38
Metal Erection	Forklifts	0	7.00	110	0.20
Metal Erection	Generator Sets	0	8.00	84	0.74
Metal Erection	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Metal Erection	Welders	0	8.00	46	0.45
PV Install	Air Compressors	0	6.00	13	0.48
PV Install	Cranes	0	7.00	226	0.29
PV Install	Dumpers/Tenders	0	2.50	22	0.38
PV Install	Forklifts	0	7.00	110	0.20
PV Install	Generator Sets	0	8.00	84	0.74
PV Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
PV Install	Welders	0	8.00	46	0.45
Substation	Aerial Lifts	0	7.00	29	0.31
Substation	Air Compressors	0	4.00	13	0.48
Substation	Cranes	0	7.00	478	0.29
Substation	Cranes	0	7.00	31	0.29
Substation	Excavators	0	7.00	38	0.38

Substation	Forklifts	0	4.00	110	0.20
Substation	Generator Sets	0	4.00	22	0.74
Substation	Skid Steer Loaders	0	7.00	79	0.37
Substation	Tractors/Loaders/Backhoes	0	7.00	111	0.37
Substation	Welders	0	8.00	46	0.45
String Wire Connections	Cranes	0	7.00	226	0.29
String Wire Connections	Dumpers/Tenders	0	2.50	22	0.38
String Wire Connections	Forklifts	0	3.00	110	0.20
String Wire Connections	Generator Sets	0	8.00	84	0.74
String Wire Connections	Tractors/Loaders/Backhoes	0	7.00	97	0.37
String Wire Connections	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	8.00	0.00	0.00	0.10	6.75	10.80	LD_Mix	HDT_Mix	HHDT
General Conditions	0	68.00	0.00	0.00	0.10	7.86	20.00	LD_Mix	HDT_Mix	HHDT
Fencing	0	16.00	0.00	0.00	0.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
Driven Piles	0	20.00	0.00	0.00	0.10	6.60	10.80	LD_Mix	HDT_Mix	HHDT
Metal Erection	0	28.00	0.00	0.00	0.10	7.86	10.80	LD_Mix	HDT_Mix	HHDT
PV Install	0	32.00	0.00	0.00	0.10	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Substation	0	4.00	0.00	0.00	0.10	138.00	37.80	LD_Mix	HDT_Mix	HHDT
String Wire Connections	0	4.00	0.00	0.00	0.10	6.53	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	9.0000e-005	1.2100e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0323	0.0323	1.0000e-005	0.0000	0.0324
Total	**3.5000e-004**	**9.0000e-005**	**1.2100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0323**	**0.0323**	**1.0000e-005**	**0.0000**	**0.0324**

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	9.0000e-005	1.2100e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0323	0.0323	1.0000e-005	0.0000	0.0324
Total	**3.5000e-004**	**9.0000e-005**	**1.2100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0323**	**0.0323**	**1.0000e-005**	**0.0000**	**0.0324**

3.3 General Conditions - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9300e-003	1.3000e-003	0.0172	1.0000e-005	1.4000e-004	2.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4569	0.4569	8.0000e-005	0.0000	0.4585
Total	**4.9300e-003**	**1.3000e-003**	**0.0172**	**1.0000e-005**	**1.4000e-004**	**2.0000e-005**	**1.6000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.4569**	**0.4569**	**8.0000e-005**	**0.0000**	**0.4585**

3.3 General Conditions - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9300e-003	1.3000e-003	0.0172	1.0000e-005	1.4000e-004	2.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4569	0.4569	8.0000e-005	0.0000	0.4585
Total	**4.9300e-003**	**1.3000e-003**	**0.0172**	**1.0000e-005**	**1.4000e-004**	**2.0000e-005**	**1.6000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.4569**	**0.4569**	**8.0000e-005**	**0.0000**	**0.4585**

3.4 Fencing - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	3.0000e-005	4.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0108	0.0108	0.0000	0.0000	0.0108
Total	**1.2000e-004**	**3.0000e-005**	**4.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0108**	**0.0108**	**0.0000**	**0.0000**	**0.0108**

3.4 Fencing - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	3.0000e-005	4.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0108	0.0108	0.0000	0.0000	0.0108
Total	**1.2000e-004**	**3.0000e-005**	**4.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0108**	**0.0108**	**0.0000**	**0.0000**	**0.0108**

3.5 Driven Piles - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	1.9000e-004	2.5300e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0672	0.0672	1.0000e-005	0.0000	0.0674
Total	**7.2000e-004**	**1.9000e-004**	**2.5300e-003**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0672**	**0.0672**	**1.0000e-005**	**0.0000**	**0.0674**

3.5 Driven Piles - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	1.9000e-004	2.5300e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0672	0.0672	1.0000e-005	0.0000	0.0674
Total	**7.2000e-004**	**1.9000e-004**	**2.5300e-003**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0672**	**0.0672**	**1.0000e-005**	**0.0000**	**0.0674**

3.6 Metal Erection - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	1.3000e-004	1.7000e-003	0.0000	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0452	0.0452	1.0000e-005	0.0000	0.0453
Total	**4.9000e-004**	**1.3000e-004**	**1.7000e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0452**	**0.0452**	**1.0000e-005**	**0.0000**	**0.0453**

3.6 Metal Erection - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	1.3000e-004	1.7000e-003	0.0000	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0452	0.0452	1.0000e-005	0.0000	0.0453
Total	**4.9000e-004**	**1.3000e-004**	**1.7000e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0452**	**0.0452**	**1.0000e-005**	**0.0000**	**0.0453**

3.7 PV Install - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	2.7000e-004	3.5600e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0946	0.0946	2.0000e-005	0.0000	0.0949
Total	**1.0200e-003**	**2.7000e-004**	**3.5600e-003**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0946**	**0.0946**	**2.0000e-005**	**0.0000**	**0.0949**

3.7 PV Install - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	2.7000e-004	3.5600e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0946	0.0946	2.0000e-005	0.0000	0.0949
Total	**1.0200e-003**	**2.7000e-004**	**3.5600e-003**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0946**	**0.0946**	**2.0000e-005**	**0.0000**	**0.0949**

3.8 Substation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	6.0000e-005	7.7000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0204	0.0204	0.0000	0.0000	0.0205
Total	**2.2000e-004**	**6.0000e-005**	**7.7000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0205**

3.8 Substation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	6.0000e-005	7.7000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0204	0.0204	0.0000	0.0000	0.0205
Total	**2.2000e-004**	**6.0000e-005**	**7.7000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0205**

3.9 String Wire Connections - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	2.0000e-005	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.3700e-003	5.3700e-003	0.0000	0.0000	5.3900e-003
Total	**6.0000e-005**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.3700e-003**	**5.3700e-003**	**0.0000**	**0.0000**	**5.3900e-003**

3.9 String Wire Connections - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	2.0000e-005	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.3700e-003	5.3700e-003	0.0000	0.0000	5.3900e-003
Total	**6.0000e-005**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.3700e-003**	**5.3700e-003**	**0.0000**	**0.0000**	**5.3900e-003**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381242	0.051506	0.131993	0.171755	0.050399	0.005962	0.014271	0.178323	0.001993	0.002277	0.007093	0.001136	0.002050

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX A CalEEMod Outputs

A.5 Offsite Employee Trips Emissions

Sunpower Java Solar IS/MND Construction - Employee On-Road Travel

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	90.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2017
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 - Solar Panel Farm.

Construction Phase - Total days values from developer.

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Value from developer

Off-road Equipment - Gators

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Off-road Equipment - Values from developer

Trips and VMT - Values from developer. Worker trip lengths are the same as Luis lengths.

On-road Fugitive Dust -

Grading - Estimate for 90 acre site.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,550.00	25.00
tblConstructionPhase	NumDays	1,550.00	12.00
tblConstructionPhase	NumDays	1,550.00	22.00
tblConstructionPhase	NumDays	1,550.00	38.00
tblConstructionPhase	NumDays	1,550.00	10.00
tblConstructionPhase	NumDays	60.00	30.00
tblConstructionPhase	NumDays	60.00	50.00
tblConstructionPhase	NumDays	60.00	5.00
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tblConstructionPhase	PhaseEndDate	3/22/2016	3/18/2016
tblConstructionPhase	PhaseEndDate	4/19/2016	5/2/2016

tblConstructionPhase	PhaseEndDate	6/23/2016	5/25/2016
tblConstructionPhase	PhaseEndDate	6/8/2016	5/3/2016
tblConstructionPhase	PhaseEndDate	4/22/2016	3/14/2016
tblConstructionPhase	PhaseEndDate	3/21/2016	1/26/2016
tblConstructionPhase	PhaseStartDate	1/27/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	3/5/2016	3/3/2016
tblConstructionPhase	PhaseStartDate	3/19/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	5/3/2016	4/2/2016
tblConstructionPhase	PhaseStartDate	5/26/2016	4/20/2016
tblConstructionPhase	PhaseStartDate	2/13/2016	1/5/2016
tblConstructionPhase	PhaseStartDate	3/15/2016	1/20/2016
tblGrading	AcresOfGrading	0.00	80.00
tblGrading	AcresOfGrading	0.00	80.00
tblGrading	AcresOfGrading	0.00	5.00
tblLandUse	LotAcreage	0.00	90.00
tblOffRoadEquipment	HorsePower	226.00	478.00
tblOffRoadEquipment	HorsePower	226.00	31.00
tblOffRoadEquipment	HorsePower	89.00	110.00
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tblOffRoadEquipment	HorsePower	89.00	110.00
tblOffRoadEquipment	HorsePower	89.00	110.00
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tblOffRoadEquipment	HorsePower	78.00	13.00

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tblOffRoadEquipment	HorsePower	205.00	48.00
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tblOffRoadEquipment	HorsePower	162.00	38.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	PhaseName		PV Install
tblOffRoadEquipment	PhaseName		Substation
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tblOffRoadEquipment	PhaseName		Metal Erection
tblOffRoadEquipment	PhaseName		PV Install
tblOffRoadEquipment	PhaseName		String Wire Connections

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tblOffRoadEquipment	PhaseName		Substation
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tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	10.80
tblTripsAndVMT	HaulingTripLength	20.00	37.80
tblTripsAndVMT	VendorTripLength	6.60	6.75
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	VendorTripLength	6.60	138.00
tblTripsAndVMT	VendorTripLength	6.60	6.53
tblTripsAndVMT	WorkerTripLength	16.80	39.90
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tblTripsAndVMT	WorkerTripLength	16.80	39.90
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tblTripsAndVMT	WorkerTripNumber	0.00	28.00
tblTripsAndVMT	WorkerTripNumber	0.00	32.00
tblTripsAndVMT	WorkerTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	0.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	0.0234	0.0595	0.5158	9.2000e-004	0.1683	5.9000e-004	0.1689	0.0309	5.4000e-004	0.0315	0.0000	69.2747	69.2747	4.2100e-003	0.0000	69.3631
Total	**0.0234**	**0.0595**	**0.5158**	**9.2000e-004**	**0.1683**	**5.9000e-004**	**0.1689**	**0.0309**	**5.4000e-004**	**0.0315**	**0.0000**	**69.2747**	**69.2747**	**4.2100e-003**	**0.0000**	**69.3631**

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	0.0234	0.0595	0.5158	9.2000e-004	0.1683	5.9000e-004	0.1689	0.0309	5.4000e-004	0.0315	0.0000	69.2747	69.2747	4.2100e-003	0.0000	69.3631
Total	**0.0234**	**0.0595**	**0.5158**	**9.2000e-004**	**0.1683**	**5.9000e-004**	**0.1689**	**0.0309**	**5.4000e-004**	**0.0315**	**0.0000**	**69.2747**	**69.2747**	**4.2100e-003**	**0.0000**	**69.3631**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2016	2/12/2016	5	30	
2	General Conditions	Site Preparation	1/5/2016	3/14/2016	5	50	
3	Fencing	Site Preparation	1/20/2016	1/26/2016	5	5	
4	Driven Piles	Building Construction	2/1/2016	3/4/2016	5	25	
5	Metal Erection	Building Construction	3/3/2016	3/18/2016	5	12	
6	PV Install	Building Construction	4/1/2016	5/2/2016	5	22	
7	Substation	Building Construction	4/2/2016	5/25/2016	5	38	
8	String Wire Connections	Building Construction	4/20/2016	5/3/2016	5	10	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	0	7.00	276	0.43
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Rubber Tired Loaders	0	7.00	205	0.36
Site Preparation	Skid Steer Loaders	0	7.00	79	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	7.00	111	0.37
General Conditions	Dumpers/Tenders	0	2.50	22	0.38
General Conditions	Rubber Tired Dozers	0	8.00	255	0.40
General Conditions	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fencing	Generator Sets	0	7.00	22	0.74
Fencing	Rubber Tired Dozers	0	8.00	255	0.40

Fencing	Skid Steer Loaders	0	4.00	79	0.37
Fencing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Driven Piles	Bore/Drill Rigs	0	7.00	48	0.50
Driven Piles	Cranes	0	7.00	226	0.29
Driven Piles	Dumpers/Tenders	0	2.50	22	0.38
Driven Piles	Forklifts	0	7.00	110	0.20
Driven Piles	Generator Sets	0	8.00	84	0.74
Driven Piles	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Driven Piles	Welders	0	8.00	46	0.45
Metal Erection	Air Compressors	0	6.00	13	0.48
Metal Erection	Cranes	0	7.00	226	0.29
Metal Erection	Dumpers/Tenders	0	5.00	22	0.38
Metal Erection	Forklifts	0	7.00	110	0.20
Metal Erection	Generator Sets	0	8.00	84	0.74
Metal Erection	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Metal Erection	Welders	0	8.00	46	0.45
PV Install	Air Compressors	0	6.00	13	0.48
PV Install	Cranes	0	7.00	226	0.29
PV Install	Dumpers/Tenders	0	2.50	22	0.38
PV Install	Forklifts	0	7.00	110	0.20
PV Install	Generator Sets	0	8.00	84	0.74
PV Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
PV Install	Welders	0	8.00	46	0.45
Substation	Aerial Lifts	0	7.00	29	0.31
Substation	Air Compressors	0	4.00	13	0.48
Substation	Cranes	0	7.00	478	0.29
Substation	Cranes	0	7.00	31	0.29
Substation	Excavators	0	7.00	38	0.38

Substation	Forklifts	0	4.00	110	0.20
Substation	Generator Sets	0	4.00	22	0.74
Substation	Skid Steer Loaders	0	7.00	79	0.37
Substation	Tractors/Loaders/Backhoes	0	7.00	111	0.37
Substation	Welders	0	8.00	46	0.45
String Wire Connections	Cranes	0	7.00	226	0.29
String Wire Connections	Dumpers/Tenders	0	2.50	22	0.38
String Wire Connections	Forklifts	0	3.00	110	0.20
String Wire Connections	Generator Sets	0	8.00	84	0.74
String Wire Connections	Tractors/Loaders/Backhoes	0	7.00	97	0.37
String Wire Connections	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	8.00	0.00	0.00	39.90	6.75	10.80	LD_Mix	HDT_Mix	HHDT
General Conditions	0	68.00	0.00	0.00	39.90	7.86	20.00	LD_Mix	HDT_Mix	HHDT
Fencing	0	16.00	0.00	0.00	39.90	7.86	10.80	LD_Mix	HDT_Mix	HHDT
Driven Piles	0	20.00	0.00	0.00	39.90	6.60	10.80	LD_Mix	HDT_Mix	HHDT
Metal Erection	0	28.00	0.00	0.00	39.90	7.86	10.80	LD_Mix	HDT_Mix	HHDT
PV Install	0	32.00	0.00	0.00	39.90	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Substation	0	4.00	0.00	0.00	39.90	138.00	37.80	LD_Mix	HDT_Mix	HHDT
String Wire Connections	0	4.00	0.00	0.00	39.90	6.53	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	2.6200e-003	0.0227	4.0000e-005	3.5600e-003	3.0000e-005	3.5800e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.0495	3.0495	1.9000e-004	0.0000	3.0534
Total	**1.0300e-003**	**2.6200e-003**	**0.0227**	**4.0000e-005**	**3.5600e-003**	**3.0000e-005**	**3.5800e-003**	**9.5000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**3.0495**	**3.0495**	**1.9000e-004**	**0.0000**	**3.0534**

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	2.6200e-003	0.0227	4.0000e-005	3.5600e-003	3.0000e-005	3.5800e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.0495	3.0495	1.9000e-004	0.0000	3.0534
Total	**1.0300e-003**	**2.6200e-003**	**0.0227**	**4.0000e-005**	**3.5600e-003**	**3.0000e-005**	**3.5800e-003**	**9.5000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**3.0495**	**3.0495**	**1.9000e-004**	**0.0000**	**3.0534**

3.3 General Conditions - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0146	0.0371	0.3216	5.8000e-004	0.0504	3.7000e-004	0.0508	0.0134	3.3000e-004	0.0137	0.0000	43.2014	43.2014	2.6300e-003	0.0000	43.2565
Total	**0.0146**	**0.0371**	**0.3216**	**5.8000e-004**	**0.0504**	**3.7000e-004**	**0.0508**	**0.0134**	**3.3000e-004**	**0.0137**	**0.0000**	**43.2014**	**43.2014**	**2.6300e-003**	**0.0000**	**43.2565**

3.3 General Conditions - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0146	0.0371	0.3216	5.8000e-004	0.0504	3.7000e-004	0.0508	0.0134	3.3000e-004	0.0137	0.0000	43.2014	43.2014	2.6300e-003	0.0000	43.2565
Total	**0.0146**	**0.0371**	**0.3216**	**5.8000e-004**	**0.0504**	**3.7000e-004**	**0.0508**	**0.0134**	**3.3000e-004**	**0.0137**	**0.0000**	**43.2014**	**43.2014**	**2.6300e-003**	**0.0000**	**43.2565**

3.4 Fencing - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	8.7000e-004	7.5700e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0165	1.0165	6.0000e-005	0.0000	1.0178
Total	**3.4000e-004**	**8.7000e-004**	**7.5700e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0165**	**1.0165**	**6.0000e-005**	**0.0000**	**1.0178**

3.4 Fencing - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	8.7000e-004	7.5700e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0165	1.0165	6.0000e-005	0.0000	1.0178
Total	**3.4000e-004**	**8.7000e-004**	**7.5700e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0165**	**1.0165**	**6.0000e-005**	**0.0000**	**1.0178**

3.5 Driven Piles - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1500e-003	5.4500e-003	0.0473	8.0000e-005	7.4100e-003	5.0000e-005	7.4700e-003	1.9700e-003	5.0000e-005	2.0200e-003	0.0000	6.3532	6.3532	3.9000e-004	0.0000	6.3613
Total	**2.1500e-003**	**5.4500e-003**	**0.0473**	**8.0000e-005**	**7.4100e-003**	**5.0000e-005**	**7.4700e-003**	**1.9700e-003**	**5.0000e-005**	**2.0200e-003**	**0.0000**	**6.3532**	**6.3532**	**3.9000e-004**	**0.0000**	**6.3613**

3.5 Driven Piles - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1500e-003	5.4500e-003	0.0473	8.0000e-005	7.4100e-003	5.0000e-005	7.4700e-003	1.9700e-003	5.0000e-005	2.0200e-003	0.0000	6.3532	6.3532	3.9000e-004	0.0000	6.3613
Total	**2.1500e-003**	**5.4500e-003**	**0.0473**	**8.0000e-005**	**7.4100e-003**	**5.0000e-005**	**7.4700e-003**	**1.9700e-003**	**5.0000e-005**	**2.0200e-003**	**0.0000**	**6.3532**	**6.3532**	**3.9000e-004**	**0.0000**	**6.3613**

3.6 Metal Erection - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	3.6700e-003	0.0318	6.0000e-005	4.9800e-003	4.0000e-005	5.0200e-003	1.3200e-003	3.0000e-005	1.3600e-003	0.0000	4.2693	4.2693	2.6000e-004	0.0000	4.2748
Total	**1.4400e-003**	**3.6700e-003**	**0.0318**	**6.0000e-005**	**4.9800e-003**	**4.0000e-005**	**5.0200e-003**	**1.3200e-003**	**3.0000e-005**	**1.3600e-003**	**0.0000**	**4.2693**	**4.2693**	**2.6000e-004**	**0.0000**	**4.2748**

3.6 Metal Erection - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	3.6700e-003	0.0318	6.0000e-005	4.9800e-003	4.0000e-005	5.0200e-003	1.3200e-003	3.0000e-005	1.3600e-003	0.0000	4.2693	4.2693	2.6000e-004	0.0000	4.2748
Total	**1.4400e-003**	**3.6700e-003**	**0.0318**	**6.0000e-005**	**4.9800e-003**	**4.0000e-005**	**5.0200e-003**	**1.3200e-003**	**3.0000e-005**	**1.3600e-003**	**0.0000**	**4.2693**	**4.2693**	**2.6000e-004**	**0.0000**	**4.2748**

3.7 PV Install - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0300e-003	7.6800e-003	0.0666	1.2000e-004	0.0104	8.0000e-005	0.0105	2.7700e-003	7.0000e-005	2.8400e-003	0.0000	8.9452	8.9452	5.4000e-004	0.0000	8.9567
Total	**3.0300e-003**	**7.6800e-003**	**0.0666**	**1.2000e-004**	**0.0104**	**8.0000e-005**	**0.0105**	**2.7700e-003**	**7.0000e-005**	**2.8400e-003**	**0.0000**	**8.9452**	**8.9452**	**5.4000e-004**	**0.0000**	**8.9567**

3.7 PV Install - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0300e-003	7.6800e-003	0.0666	1.2000e-004	0.0104	8.0000e-005	0.0105	2.7700e-003	7.0000e-005	2.8400e-003	0.0000	8.9452	8.9452	5.4000e-004	0.0000	8.9567
Total	**3.0300e-003**	**7.6800e-003**	**0.0666**	**1.2000e-004**	**0.0104**	**8.0000e-005**	**0.0105**	**2.7700e-003**	**7.0000e-005**	**2.8400e-003**	**0.0000**	**8.9452**	**8.9452**	**5.4000e-004**	**0.0000**	**8.9567**

3.8 Substation - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	1.6600e-003	0.0144	3.0000e-005	2.2500e-003	2.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.9314	1.9314	1.2000e-004	0.0000	1.9338
Total	**6.5000e-004**	**1.6600e-003**	**0.0144**	**3.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.9314**	**1.9314**	**1.2000e-004**	**0.0000**	**1.9338**

3.8 Substation - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	1.6600e-003	0.0144	3.0000e-005	2.2500e-003	2.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.9314	1.9314	1.2000e-004	0.0000	1.9338
Total	**6.5000e-004**	**1.6600e-003**	**0.0144**	**3.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.9314**	**1.9314**	**1.2000e-004**	**0.0000**	**1.9338**

3.9 String Wire Connections - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	4.4000e-004	3.7800e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5083	0.5083	3.0000e-005	0.0000	0.5089
Total	**1.7000e-004**	**4.4000e-004**	**3.7800e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5083**	**0.5083**	**3.0000e-005**	**0.0000**	**0.5089**

3.9 String Wire Connections - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	4.4000e-004	3.7800e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5083	0.5083	3.0000e-005	0.0000	0.5089
Total	**1.7000e-004**	**4.4000e-004**	**3.7800e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5083**	**0.5083**	**3.0000e-005**	**0.0000**	**0.5089**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381242	0.051506	0.131993	0.171755	0.050399	0.005962	0.014271	0.178323	0.001993	0.002277	0.007093	0.001136	0.002050

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX A CalEEMod Outputs

A.6 Offsite Delivery Trips Emissions

Sunpower Java Solar IS/MND Construction - Delivery On-Road Travel

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	90.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2017
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 - Solar Panel Farm.

Construction Phase - Total days values from developer.

Off-road Equipment - Values from developer

Off-road Equipment - Gators

Trips and VMT - Values from developer.

On-road Fugitive Dust -

Grading - Estimate for 90 acre site.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	60.00	50.00
tblGrading	AcresOfGrading	0.00	80.00
tblLandUse	LotAcreage	0.00	90.00
tblOffRoadEquipment	HorsePower	16.00	22.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	PhaseName		General Conditions
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	123.00
tblTripsAndVMT	HaulingTripNumber	0.00	292.00
tblTripsAndVMT	VendorTripLength	6.60	7.86
tblTripsAndVMT	WorkerTripLength	16.80	9.10
tblTripsAndVMT	WorkerTripNumber	10.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	0.0114	0.2245	0.0725	6.6000e-004	0.0578	3.6600e-003	0.0615	8.8200e-003	3.3700e-003	0.0122	0.0000	60.2561	60.2561	4.2000e-004	0.0000	60.2650
Total	**0.0114**	**0.2245**	**0.0725**	**6.6000e-004**	**0.0578**	**3.6600e-003**	**0.0615**	**8.8200e-003**	**3.3700e-003**	**0.0122**	**0.0000**	**60.2561**	**60.2561**	**4.2000e-004**	**0.0000**	**60.2650**

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	0.0114	0.2245	0.0725	6.6000e-004	0.0578	3.6600e-003	0.0615	8.8200e-003	3.3700e-003	0.0122	0.0000	60.2561	60.2561	4.2000e-004	0.0000	60.2650
Total	**0.0114**	**0.2245**	**0.0725**	**6.6000e-004**	**0.0578**	**3.6600e-003**	**0.0615**	**8.8200e-003**	**3.3700e-003**	**0.0122**	**0.0000**	**60.2561**	**60.2561**	**4.2000e-004**	**0.0000**	**60.2650**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	General Conditions	Site Preparation	1/5/2016	3/14/2016	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
General Conditions	Dumpers/Tenders	0	2.50	22	0.38
General Conditions	Rubber Tired Dozers	0	8.00	255	0.40
General Conditions	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
General Conditions	4	0.00	0.00	292.00	9.10	7.86	123.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 General Conditions - 2016

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0114	0.2245	0.0725	6.6000e-004	0.0154	3.6600e-003	0.0191	4.2400e-003	3.3700e-003	7.6100e-003	0.0000	60.2561	60.2561	4.2000e-004	0.0000	60.2650
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.2245**	**0.0725**	**6.6000e-004**	**0.0154**	**3.6600e-003**	**0.0191**	**4.2400e-003**	**3.3700e-003**	**7.6100e-003**	**0.0000**	**60.2561**	**60.2561**	**4.2000e-004**	**0.0000**	**60.2650**

3.2 General Conditions - 2016

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0424	0.0000	0.0424	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0424**	**0.0000**	**0.0424**	**4.5800e-003**	**0.0000**	**4.5800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	0.0114	0.2245	0.0725	6.6000e-004	0.0154	3.6600e-003	0.0191	4.2400e-003	3.3700e-003	7.6100e-003	0.0000	60.2561	60.2561	4.2000e-004	0.0000	60.2650
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.2245**	**0.0725**	**6.6000e-004**	**0.0154**	**3.6600e-003**	**0.0191**	**4.2400e-003**	**3.3700e-003**	**7.6100e-003**	**0.0000**	**60.2561**	**60.2561**	**4.2000e-004**	**0.0000**	**60.2650**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381242	0.051506	0.131993	0.171755	0.050399	0.005962	0.014271	0.178323	0.001993	0.002277	0.007093	0.001136	0.002050

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Appendix B

Appendix B1

BIOLOGICAL RESOURCES REPORT
JAVA SOLAR PROJECT

KINGS COUNTY, CALIFORNIA

March 2016

Prepared for:

SUNPOWER CORPORATION
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List of Abbreviations and Acronyms

APLIC	Avian Power Line Interaction Committee
APN	Assessor's Parcel Number
amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California's Natural Diversity Database
CNPS	California Native Plant Society
SSC	California Species of Special Concern
CWA	Clean Water Act
E & E	Ecology and Environment, Inc.
ESA	Endangered Species Act
MBTA	Migratory Bird Treaty Act
MW	megawatt
NOAA	U.S. National Oceanic and Atmospheric Administration
PV	photovoltaic
RWQCB	Regional Water Quality Control Board
SR	State Route
T&E	threatened and endangered
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 Introduction

1.1 Purpose of Study

On November 3-5, 2014 and January 14-15, 2015, biologists from Ecology and Environment, Inc. (E & E) conducted a biological survey of approximately 1,375 acres on and in the vicinity of the Java Solar Project (Java Project) site to identify the presence of common and special status wildlife species and their habitat, including jurisdictional wetlands and aquatic resources (Figure 1). This report presents the findings of E & E's biological survey with respect to the Java Project. Observations from subsequent site visits by E & E biologists, in December 2015 and January 2016 are also detailed in this report.

The Java Project is a 13.5-megawatt (MW), alternating current, photovoltaic (PV) solar energy generation facility in northwestern Kings County near the unincorporated community of Stratford (Figure 2). The Java Project is located on 96 acres of private agricultural lands (Assessor's Parcel Number [APN] 024-170-010 and APN 024-170-011) within the greater 1,375-acre survey area.

1.2 Survey Area

The survey area is in northwestern Kings County, California, approximately 4 miles southwest of the City of Lemoore and 2.5 miles northeast of the town of Stratford (Figure 2). The survey area is within the Stratford 7.5 minute U.S. Geological Survey (USGS) topographic quadrangle and includes portions of Township 19 South, Range 20 East, Sections 32, Mount Diablo Base, and Meridian. The survey area included the 96-acre solar facility site for the Java Project.

The Kings River and its major tributaries are located 2.3 miles west of the survey area. Elevation in the survey area is approximately 210 feet above mean sea level (amsl). There are three man-made agricultural evaporation ponds, known as the Westlake Farms North Evaporation Basin (Westlake Farms), on 640 acres west of the solar facility site. See Ponds A, B, and C in Figure 3. There are two man-made agricultural retention ponds north of the solar facility site. See Ponds D and E in Figure 3. State Route 41 (SR-41) runs along the west side of the solar facility site.

1.3 Regulatory Setting

Federal, state, and local regulatory requirements that may be pertinent to the Java Project activities are presented below.

1.3.1 Federal

Federal Endangered Species Act (ESA)

Enacted to protect threatened and endangered (T&E) species and the ecosystems upon which they depend, the ESA (16 U.S. Code [U.S.C.] 1531 *et seq*.) is administered by the U.S. Fish and Wildlife Service (USFWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA). The USFWS has jurisdiction over terrestrial and freshwater listed T&E species and their range. Under the ESA, it is unlawful to take (i.e., harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) a listed T&E species without a permit. Section 7 of the ESA requires a federal agency to consult with the USFWS when any action it carries out, funds, or authorizes may affect a listed T&E species. For projects that are not carried out, funded, or authorized by a federal agency, Section 10 of the ESA allows the USFWS to issue a permit to the project proponent to take listed T&E species incidental to otherwise legal activity.

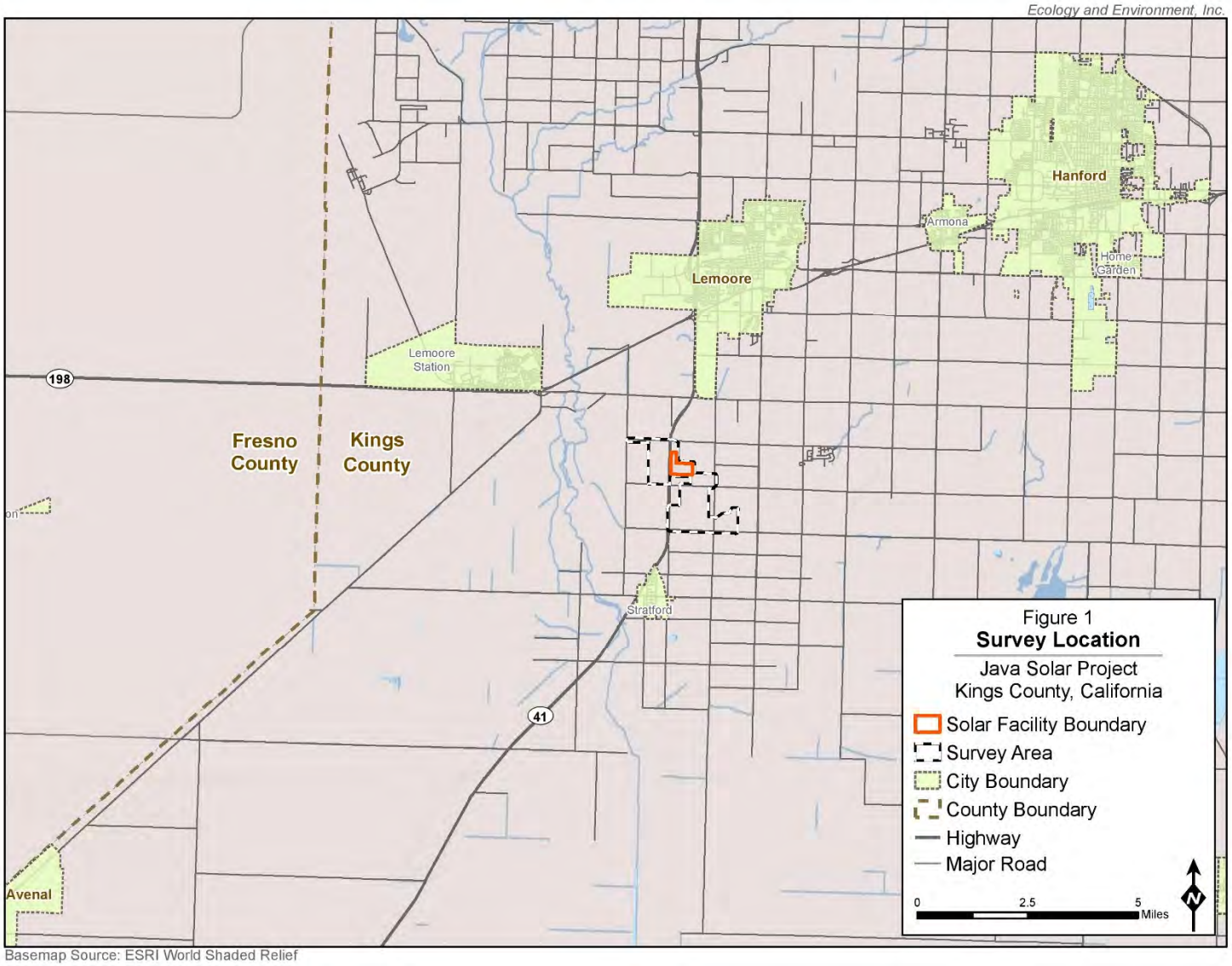
Migratory Bird Treaty Act (MBTA)

Under the MBTA (16 U.S.C. 703–712), it is illegal to "pursue, hunt, take, capture, kill, attempt to take, capture, kill, possess, sell, and barter" native migratory bird species without a permit. The MBTA was enacted in response to the declines of migratory bird populations from uncontrolled commercial uses. The MBTA is a multinational effort to protect migratory birds and bird parts, including eggs, young, nests, and feathers. This act protects most migratory birds, including 836 species, 58 of which may be legally hunted. The MBTA excludes certain game birds and non-native species (e.g., quail, turkeys, European starlings).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d, 54 Stat. 250) was enacted in 1940 to preserve eagle populations from wanton killing and population decline. This act makes it illegal to take bald (*Haliaeetus leucocephalus*) or golden (*Aquila chrysaetos*) eagles or to trade in eagle parts, eggs, or feathers. Molestation and disturbance are prohibited and take is broadly interpreted to include altering or disturbing nesting habitat. On September 11, 2009, Eagle Rule, 50 Code of Federal Regulations (CFR) Parts 13 and 22 were established to finalize permit regulations to authorize limited take associated with otherwise lawful activities.[1] These new regulations also establish permit provisions for intentional take of eagle nests under particular limited circumstances.

[1] "Eagle Permits; Take Necessary To Protect Interests in Particular Localities; Final rule," 74 Federal Register 175 (11 September 2009), pp. 46836-46879.



1 Survey Location

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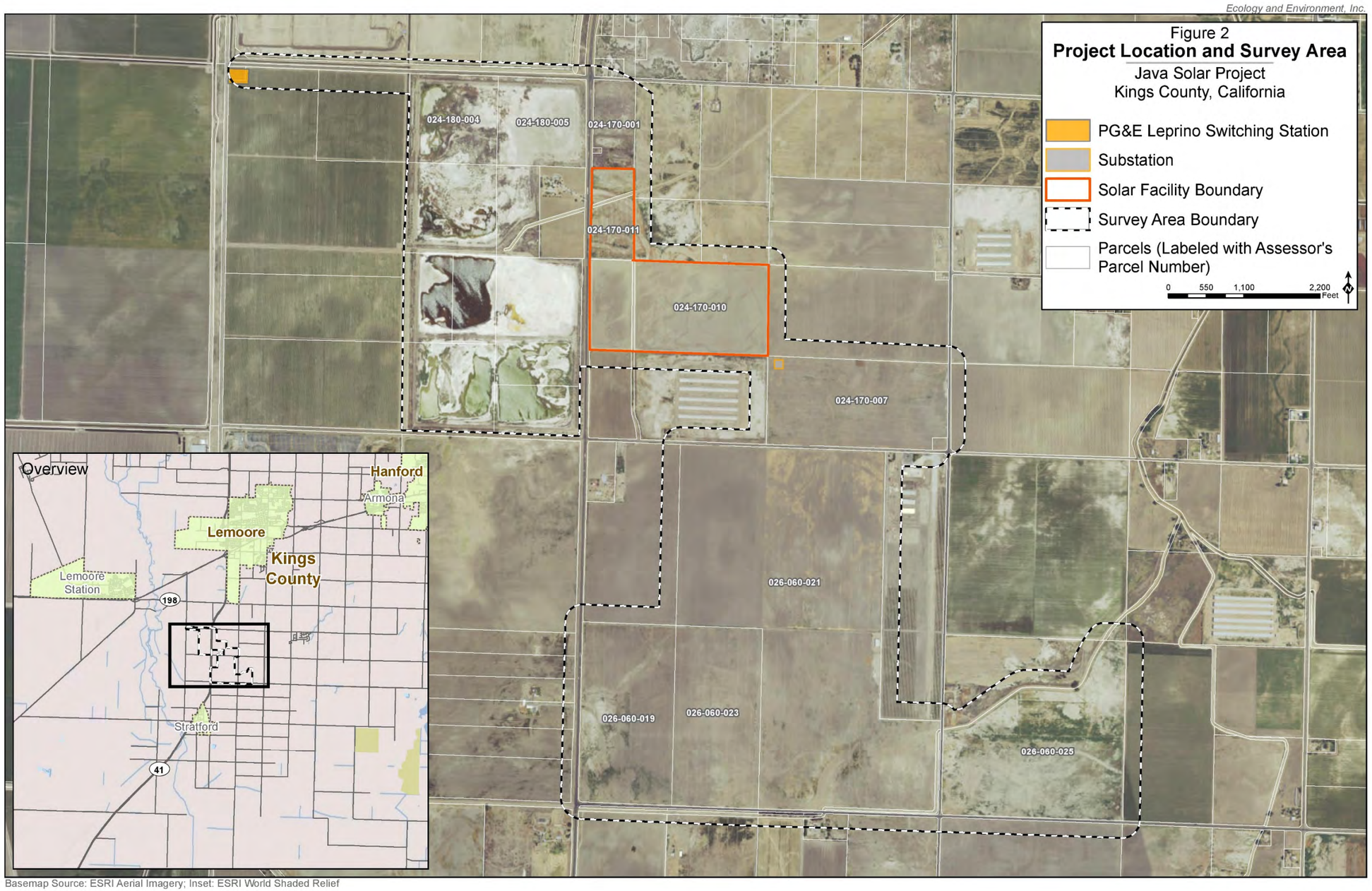

Basemap Source: ESRI Aerial Imagery; Inset: ESRI World Shaded Relief

2 Project Location and Survey Area

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Clean Water Act (CWA) Section 404

The CWA (33 U.S.C. 1251 *et seq*.) regulates the discharge of pollutants into waters of the U.S. to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) is authorized to regulate the discharge of fill or dredged material into waters of the U.S., which include wetlands. Wetlands are defined as land "inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3). The USACE has the authority to determine if a wetland or waterbody is subject to regulatory jurisdiction under Section 404. A Section 404 nationwide or individual permit from the USACE is required for projects that will dredge or fill waters of the U.S.

Clean Water Act (CWA) Section 401

Section 401 of the CWA stipulates that a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. unless the state or tribe where the discharge would originate has granted or waived Section 401 water quality certification. The state or tribe may grant, grant with conditions, deny, or waive certification. In California, the Regional Water Quality Control Board (RWQCB) administers the Section 401 Water Quality Certification Program. Section 401 certification is required before the USACE may issue a Section 404 permit for discharge of dredged or fill material into waters of the U.S. Many states, including California, rely on Section 401 certification as a primary regulatory tool for protecting wetlands and other aquatic resources.

1.3.2 State

California Endangered Species Act (CESA)

The CESA (Fish and Game Code Section 2050 *et seq*.) establishes legal protection for state-listed T&E plants and wildlife under the guidance of the California Department of Fish and Wildlife (CDFW). The CDFW defines species of concern as those that may be listed as threatened or endangered due to loss of habitat, limited distributions, and diminishing population sizes or are deemed to have scientific, recreational, or educational value. California Fish and Game Code Section 2081 provides a permit process for incidental take of species listed as T&E pursuant to CESA when certain permit conditions are met.

California Fish and Game Code Section 1600 *et seq*.

Pursuant to California Fish and Game Code Section 1600 *et seq*., CDFW has authority over all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires that any person, state or local governmental agency, or public utility notify the CDFW before beginning an activity that would "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" that supports fish or wildlife resources. A Lake or Streambed Alteration Agreement may be required for proposed projects that would result in an adverse impact to a river, stream, or lake. CDFW jurisdiction typically extends to the top of the bank and outer edge of adjacent riparian vegetation, if present.

California Fish and Game (CFG) Code, Sections 3503, 3503.5, 3511, and 5050

According to CFG Code Section 1802, the CDFW has jurisdiction over the conservation, protection, and management of all California wildlife, fish, native plants (including state-listed T&E and other special status species), and habitats necessary to maintain biologically sustainable populations. CFG Code Section 3503 specifies the following general provision for birds: "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the orders *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Take includes construction disturbance during the breeding season that results in either the incidental loss of fertile eggs and nestlings or otherwise leads to nest abandonment, as well as disturbance that causes nest abandonment or loss of reproductive effort. Sections 3511 and 5050 prohibit the taking and possession without a permit of birds and reptiles listed as "fully protected."

California Environmental Quality Act (CEQA) Guidelines Section 15380

In addition to species listed on the federal and state lists of protected species, CEQA Guidelines Section 15380(d) provides that a species shall be considered endangered, rare, or threatened if the species can be shown to meet certain specified criteria. A species may be considered "endangered" when its survival and reproduction in the wild are immediately threatened. A species may be considered "rare" when the species exists in such small numbers or in a small portion of its range such that it may become endangered if its habitat conditions worsen. A species may be considered "threatened" if it meets federal ESA criteria.

Non-listed species that may be considered under CEQA include, but are not limited to, plants categorized by the California Native Plant Society (CNPS) as rare or endangered (including those considered rare and endangered only in California) or any plants considered locally or regionally significant by local governments or agencies. Because CEQA does not limit the discussion of impacts to species listed as T&E by either the federal or state governments, biological impacts are assessed and mitigation measures are assigned on a case-by-case basis, accounting for, among other factors, the scope of the project, the specifics of the site, and the individual species in question.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." These waters include those considered waters of the U.S. under the jurisdiction of the USACE as well as those waters not covered by the USACE. The Porter-Cologne Water Quality Control Act establishes water quality control boards at the state and regional levels as the primary agencies responsible for the coordination and control over water quality in waters of the state. Pursuant to Water Code Section 13260, a "person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system" must file a report of the discharge and application for waste discharge requirements with the appropriate RWQCB.

2 Methods

2.1 Desktop Analysis

Prior to conducting wildlife and habitat surveys, E & E biologists conducted a desktop analysis to determine the vegetation, wetlands and surface waters, and wildlife species with potential to occur in the survey area. For the purpose of this report, any species included on any of the following lists are considered a special status species:

- Species listed or proposed for listing by the federal government as threatened or endangered under the federal ESA (50 CFR 17.12);
- Species listed or proposed for listing by the State of California as rare, threatened, or endangered under CESA (14 CCR Section 670.5), state species of special concern, or California fully protected species;
- Species identified in the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2014) as rare, threatened, or endangered in California (Lists 1 and 2);
- Species that meet the definition of rare, threatened, or endangered under CEQA; and
- Species protected under the Bald and Golden Eagle Protection Act (BGEPA).

2.1.1 Literature Review

To determine special status species that could occur in the survey area, E & E conducted a desktop review of databases and other resources. The literature review included occurrence records of special status plant and animal species, designated critical habitat, sensitive terrestrial communities, wetlands and surface waters, and soil types, as contained in the following biological databases and documents:

- Biological Resources Study for Henrietta Solar Project (E & E 2015);
- Biological Resources Study for SunPower Henrietta Solar Project (Michael Brandman Associates. 2012);
- California Natural Diversity Database (CNDDB 2015);
- CDFW Biogeographic Data Branch, Special Animals List (CDFW 2015);

- Cornell Lab of Ornithology's eBird database (eBird 2014);
- Biological Resources Survey, Resource Conservation Element Update, Kings County General Plan (Halstead & Associates 2008);
- National Hydrography Database geospatial data (USGS 2014);
- National Wetland Inventory geospatial data (NWI 2014);
- USFWS Critical Habitat Portal (USFWS 2014); and
- USFWS Information for Planning and Conservation (IPaC 2016).

E & E also reviewed digital aerial photographs and data layers of the survey area and surrounding areas, including soils, topography, wetlands, and municipal reference layers. These data layers were used to develop base maps for the surveys. Species which have historically occurred in the County were dismissed from this analysis if they had no potential to occur based on habitat requirements or if the current range of the species no longer overlaps the vicinity of the project area.

2.2 Field Surveys

E & E biologists conducted three biological field surveys. In November 2014, biologists surveyed portions of the 96-acre Java Project site as part of a larger survey effort for another project.[2] In January 2015, biologists conducted additional surveys on APN 024-170-011, which includes 80 acres of the 96-acre Java Project site, and APN 024-170-001, north of the Java Project (Figure 2). Where the 250-foot buffer extended onto non-project related property or inaccessible areas, biologists surveyed the area with binoculars. In January 2016, an E & E biologist conducted a delineation of a section of DR-4.

2.2.1 Wintering Bird Surveys

An avian biologist conducted a survey for wintering waterbirds at the Westlake Farms ponds on November 3-4, 2014. Pond A, the southernmost of the three ponds, held the most water and, therefore, hosted the most waterbirds. For one hour each morning beginning one half-hour after sunrise, the biologist recorded all species observed at and around the ponds.

2.2.2 Wildlife and Vegetation Evaluation

E & E biologists drove the boundaries of all project parcels included in the survey area and walked portions of the interior of each parcel, focusing on areas with the greatest potential to support wildlife. Biologists also drove accessible areas within 0.5-mile of the Java Project site to survey for birds and wildlife, focusing on uncultivated areas, tree rows, and ponds.

[2] The survey for the Henrietta Solar Project (E & E 2015) included the 690-acre solar facility site plus a 250-foot buffer, some segments of the planned Henrietta gentie line route, which runs through the Java Project site, plus a 250-foot buffer, and the Westlake Farms ponds area.

2.2.3 Irrigation Ditch Delineation

On January 8, 2016, an E & E biologist conducted a delineation of a portion of irrigation ditch DR-4, located on APN 024-170-010. This portion of DR-4 was mapped with a GPS device at ordinary high water mark (OHWM), several GPS points were obtained to determine average width at OHWM and top-of-bank, and representative photos were taken.

3 Survey Results

3.1 Physical Characteristics

3.1.1 Land Use

The survey area is within an agricultural landscape; the majority of the area has been managed as intensive agricultural land for decades (Google Earth 2014). See Figure 3 for habitat and land use in the survey area, and see Appendix B for representative photos. The majority of the cultivated land consists of grain and row crops (e.g., cotton, tomatoes, and alfalfa, etc.) and is regularly tilled for weed, pest, and fire control purposes (Photo 1 and Photo 2). The land adjacent to the Java Project site supports sheep grazing, grain and row crops, pomegranate orchards, cotton fields, and confined poultry operations.

Three man-made evaporation ponds (Westlake Farms), representing a combined approximately 640 acres, are present between Kent and Jersey Avenues, just west of SR-41 (Photo 3). Two additional dry, man-made agricultural retention ponds (Ponds D and E) are present on APN 024-170-001. Ponds D and E have established areas of riparian buffer that include several large trees and tall shrubs along the east side.

An irrigation canal with an earthen bank runs north-south through Java Project site along the eastern border of APN 024-170-010, and through the western third of APN 024-170-011. The canal, dry during surveys, connects with the Lemoore Canal, which bisects APN 024-170-010. Irrigation ditches run along portions of the parcels' edges (Figure 3). Dirt access roads, approximately 12 feet wide, are along the sides of APN 024-170-011.

There are no inhabited dwellings on the Java Project site. While there are no trees on the project parcels, several trees are present immediately north and east of APN 024-170-010 on APN 024-170-001 (Figure 3). A portion of an abandoned pistachio orchard is on APN 024-170-011, and a poultry farm is located south of APN 024-170-010 (Photo 4 and Photo 5).

There are wooden utility poles and low-voltage distribution lines along parcel edges throughout the Java Project site. There are also two high-voltage transmission lines on steel and wooden poles along Jersey and Kent Avenues.

3.2 Vegetation and Wildlife Habitat

The overall physical characteristics of the Java Project site make it generally unsuitable as habitat for special status plant and wildlife species. The Java Project site undergoes frequent soil and other human-related disturbances. There is a high percentage of invasive plant species in the survey area; of the 47 plant species observed within the survey area, 24 were native species (see Appendix A).

3.2.1 Agricultural Land and Ruderal Vegetation

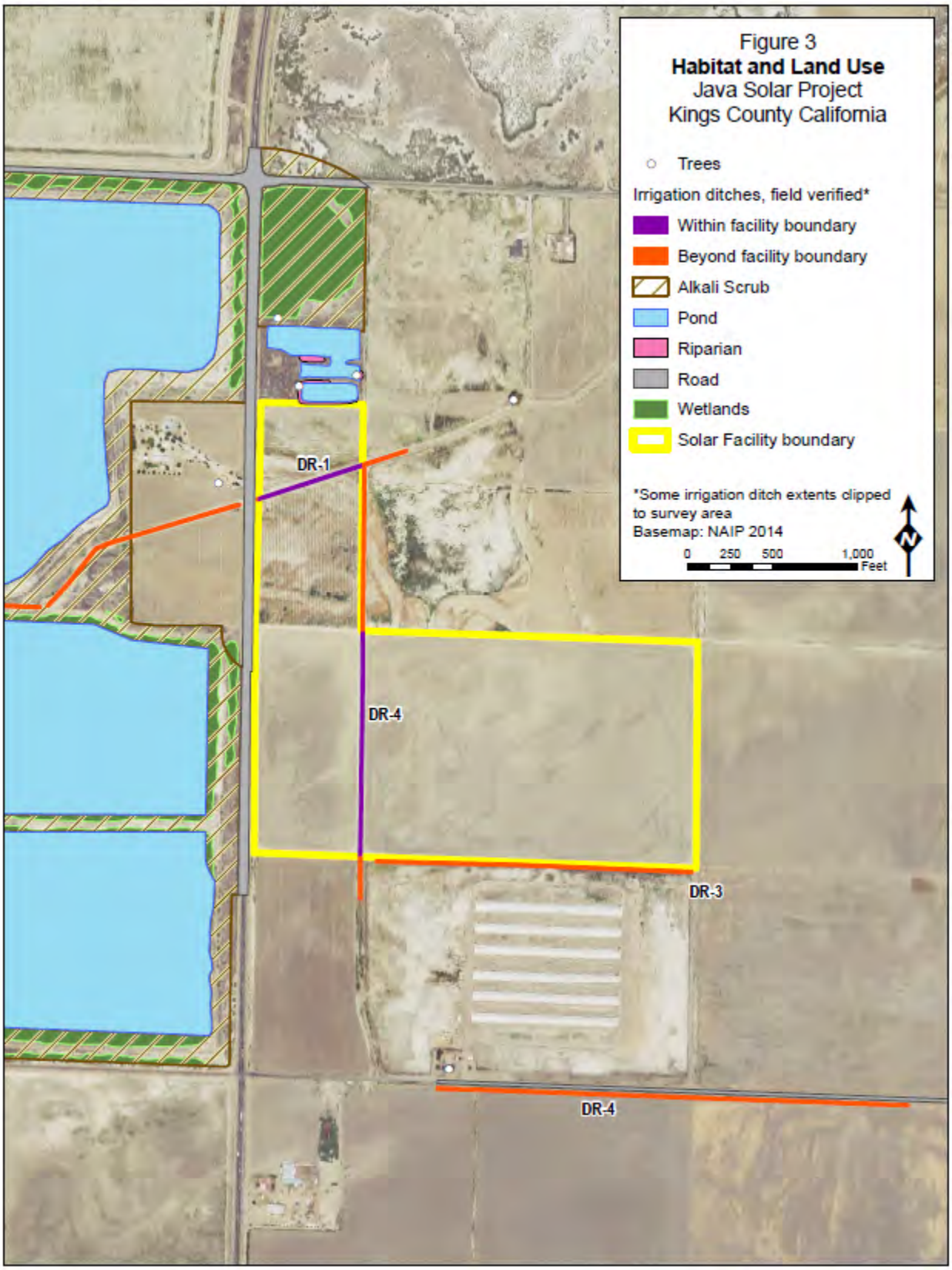
In a typical year, irrigated crops, such as tomatoes or alfalfa, cover cultivated portions of the survey area (e.g., APN 024-170-010). Crops are usually harvested in spring, after which the fields are disked for fire and weed control, as well as prepare for planting in early fall. After the fields are disked, opportunistic patches of weeds often colonize and include common, disturbance-tolerant species such as black mustard (*Brassica nigra*), five horn bassia (*Bassia hyssopifolia*), cheeseweed (*Malva parviflora*), Russian thistle (*Kali tragus*), and spreading alkaliweed (*Cressa truxillensis*). Fallow agricultural land is often classified as containing *ruderal vegetation*, a vegetation type composed of predominantly fast-growing, non-native vegetation. APN 024-170-011 is a former pomegranate orchard and consists of primarily invasive and salt-tolerant grassland plant species.

3.2.2 Alkali Scrub

Alkali scrub does not occur on the Java Project site but occurs in a highly disturbed form throughout the greater survey area along roadsides and in fallowed agricultural fields. Alkali scrub is dominated by salt-tolerant plants such as saltbush (*Atriplex* spp.) and iodine bush (*Allenrolfea occidentalis*) and can include a low herbaceous understory. In the survey area, this vegetation type occurred in a mosaic with ruderal areas and isolated wetland vegetation.

3.2.3 Isolated Trees

Figure 3 depicts the scattered distribution of trees in the project vicinity; the Java Project site is treeless. Trees in the vicinity of the site included eucalyptus (*Eucalyptus* spp.), cottonwood (*Populus fremontii*), willow (*Salix* spp.), and tamarisk (*Tamarix* spp.). Ornamental trees such as Italian cypress (*Cupressus sempervirens*) were common near residences. The largest concentration of trees was adjacent to Ponds D and E on APN 024-170-001, north of the Java Project site (Figure 3).



3 Habitat and Land Use

3.2.4 Aquatic Habitats and Wetlands

Consistent agricultural use and the diversion of water into artificial impoundments (i.e., ponds and ditches) have physically altered the natural hydrology and aquatic habitats within and around the survey area. Water patterns throughout the survey area are highly fragmented, although a few major canals may connect to the Kings River. Under normal conditions, the ditches are under the influence of agricultural pumping and, following precipitation may typically hold water seasonally; however, due to drought, the ditches are increasingly ephemeral and rely on artificial inputs (i.e., water pumped in for irrigation).

Agricultural Ponds

The man-made Westlake Farms agricultural evaporation ponds represent the highest-quality wildlife habitat in the survey area. Based on eBird data, the ponds host more than 130 species of birds throughout the year. Historic aerial images show that the ponds have been fully flooded. During surveys, however, Ponds A and B were nearly dry and Pond C was completely dry. The southern portion of Pond A contained water and, therefore, the highest concentration of waterbirds.

Ponds D and E, the two man-made agricultural retention ponds in apparent disuse, are east of Pond C on APN 024-170-001 north of the Java Project site. Ponds D and E lie within a fallow parcel where evidence of human disturbance from trash and soil dumping was apparent. With the exception of two breached sections around Pond D, earthen berms about 5-10 feet in height surrounded Ponds D and E. Pond D held no water at the time of the site visit and Pond E held only a few inches of standing water in the very center where a cattail (*Typha latifolia*) stand was present. While generally of poor quality, the eastern margins of these ponds, particularly around Pond E, are characterized by a riparian zone consisting of mature trees and shrubs of eucalyptus, cottonwood, willow, and tamarisk.

Irrigation Ditches

Five irrigation ditches were identified within the survey area. An unvegetated irrigation ditch (Drainage 1 [DR-1]) runs northeast-southwest through APN 024-170-011. A vegetated ditch (DR-3) was present immediately south of APN 024-170-010 (off of the Java Project site), and a partially-vegetated irrigation ditch ran north-south through APN 024-170-010 (DR-4) (Figure 3). According to the January 2016 delineation of the portion of DR-4 that lies on APN 024-170-010, that section is approximately .35 acres (measured at the OHWM). Portions of DR-1 and DR-4 are on the Java Project site. In addition, an unvegetated and flooded ditch (DR-2) ran along the western side of the Westlake Farms ponds from Jersey Avenue to Java Avenue, and a fifth, unvegetated irrigation ditch (DR-5) ran east-west along the north side of Jersey Avenue. DR-2 and DR-5 are not located on or adjacent to the Java Project site.[3]

[3] If flooded and vegetated in the future, DR-2 and DR-5, as well as other irrigation ditches that were unvegetated at the time of the survey, could provide low quality wildlife habitat within the vicinity of the project; however, the Java Project would have no impact on DR-2 and DR-5.

Unvegetated ditches do not represent wildlife habitat. However, vegetated ditches provide cover for common bird and mammal species, and flooded ditches attract foraging wildlife. Most ditches were unvegetated. The vegetated ditches did not support woody riparian vegetation, but rather were characterized by ruderal herbaceous species. Because these features are drained and filled frequently to meet human needs, the hydroperiods are artificial and unpredictable. Additionally, the bed and banks of the irrigation ditches are frequently scraped of vegetation and potentially have herbicides applied to them. Therefore, while the potential for these ditches to support wildlife habitat fluctuates dramatically throughout the year, even when flooded and vegetated, these ditches represent low quality wildlife habitat.

Wetlands

Wetlands were not present onsite; however, seasonal wetlands were present in two areas of the greater survey area. Emergent alkali sink scrub wetlands were located in depressions on the landscape that primarily contain alkali sink scrub-like plant species. The hydrology was driven by episodic precipitation and subsurface horizontal flow between adjacent drainages and pond margins.

The low-lying areas outside the Westlake Farms ponds' berms contained wetland plants such as cattail, western goldenrod (*Euthamia occidentalis*), common sunflower (*Helianthus annuus*), and rush (*Juncus* spp.). Wetland characteristics were present north of Pond C along Jersey Avenue in the depression between the steeper slopes of road edges and the toe of the levee berm of the pond. This area is a mosaic of hydrophytic low-lying shrubs and herbaceous vegetation, interspersed with bare ground. Wetlands in this area are subject to regulatory jurisdiction as Waters of the U.S. and Waters of the State (USACE 2015).

Wetland characteristics were also present on the majority of APN 024-170-001, northeast of the Java Project site, and north of Ponds D and E. There is a slight landscape depression created by Jersey Avenue to the north and SR-41 to the west. An actively tilled agricultural field directly abuts the eastern border of the property and sits at a slightly higher elevation. This area is also a mosaic of hydrophytic shrubs and herbaceous vegetation, interspersed with bare ground. Facultative species were dominant and included iodine bush, bush seepweed (*Suaeda nigra*), spreading alkaliweed, alkali heath (*Frankenia salina*), salt grass (*Distichlis spicata)*, and curly dock (*Rumex crispus*). Wetlands in this area are subject to regulatory jurisdiction as waters of the U.S. and waters of the state (USACE 2015).

3.3 Common Wildlife

There were 47 vertebrate wildlife species recorded on or adjacent to the survey area (Appendix A). Of these, 20 species were waterbirds observed within Ponds A, B, and C at Westlake Farms.

Waterbirds

There were 20 species of waterbirds observed within Ponds A, B, and C at Westlake Farms during avian surveys in November 2014. These species included several dozen American white pelicans (*Pelecanus erythrorhynchos*) and several hundred Northern shovelers (*Anas clypeata*). Also common were white-faced ibis (*Pledagis chihi*), black-necked stilt (*Himantopus mexicanus)*, western sandpiper (*Calidris mauri*), least sandpiper (*Calidris minutilla*), and American avocets (*Recurvirostra americana*). Wading birds such as great blue heron (*Ardea herodias*) and great egret (*Ardea alba*) were often seen in tilled fields adjacent to the ponds, and

upland passerines, such as white-crowned sparrows (*Zonotrichia leucophrys*), song sparrows (*Melospiza melodia*), and Oregon juncos (*Junco hyemalis oregonus*) were observed in the alkali scrub bordering the ponds.

The diversity and composition of the bird species at Westlake Farms changes throughout the year (eBird 2014). During surveys, the species observed at the ponds would have represented the species that spend the winter on inland ponds and the last of the migrants on their way south. Some of these species, such as bufflehead and lesser scaup, will migrate out of the San Joaquin Valley in early spring and be replaced by other species during the breeding season. Many species of birds will inhabit the ponds year-round.

Upland birds

Common upland birds were observed along brushy ditch edges, perched within tilled fields or on trees, and flying over the site. Upland birds included common ravens (*Corvus corax*), red-tailed hawks (*Buteo jamaicensis*), horned larks (*Eremophila alpestris*), western meadowlarks (*Sturnella neglecta*), and song sparrows. These birds are likely year-round residents and will nest in shrubs, trees, or on the ground.

3.4 Special Status Species

There were four special status avian species observed during surveys and habitat exists for a number of other special status species. Eight special status species, discussed below, have a high potential to occur or are known to occur within the survey area: Swainson's hawk (*Buteo swainsoni*), western snowy plover (*Charadrius alexandrinus nivosus*) (interior population), peregrine falcon (*Falco peregrinus*), northern harrier (*Circus cyanaeus*), American white pelican (*Pelecanus erythrorynchos*), white-faced ibis (*Pledagis chihi*), burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). While not expected to occur within the survey area, San Joaquin kit fox (*Vulpes macrotis mutica*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), and blunt nosed leopard lizard are also discussed below. Special status species with the potential to occur in the survey area are listed in Table 1.

3.4.1 Swainson's Hawk

Swainson's hawks are a locally common, though declining, raptor species that breeds in the San Joaquin Valley. This species is listed as threatened under the CESA. While no Swainson's hawks were observed during the surveys, E & E biologists are aware of a historic Swainson's hawk nest in the vicinity of the survey area that was active in 2011. The nest was also observed during surveys undertaken by Michael Brandman Associates in 2012, although the report does not identify if Swainson's hawks were observed using the nest (Michael Brandman Associates 2012).

During surveys in January 2015, E & E biologists did observe a stick nest in the same eucalyptus stand. The nest was large enough to have been built by hawks or ravens. Since surveys took place outside the breeding season, biologists could not confirm what species built the nest. One or two Swainson's hawks have been consistently documented at Ponds A, B, and C in Westlake Farms since 2009 (eBird 2014). Given the proximity of the nest to the ponds, it is possible that these Swainson's hawks are the same pair that nested in 2011. There are numerous agricultural fields surrounding the nest tree that are suitable for Swainson's hawk foraging habitat.

3.4.2 Western Snowy Plover

No western snowy plovers were observed during the surveys. While marginally suitable breeding or foraging habitat is present, the Westlake Farms ponds, adjacent to the Java Project site, provide suitable habitat for western snowy plovers. Only the Pacific coast population of this species is listed as threatened under the federal ESA; the interior population, which is distinct from the Pacific coast population, is not listed (USFWS 2007). CDFW considers snowy plover to be a species of special concern.

According to published literature and Cornell Lab of Ornithology's eBird database, snowy plovers have been observed year-round at the Westlake Farms ponds since the early 1990s (Shuford et al. 1995; eBird 2014). Although snowy plovers were not observed during reconnaissance surveys in November 2014 and January 2015 or reported on eBird shortly after surveys, plovers were observed at the pond by eBird birders in October, November, and January (Stacy 2015).

The USFWS Recovery Plan for this species states that salt pans of medium salinity are the best quality foraging habitat for the interior population. The plan also notes that dry salt ponds and unvegetated pond levees are sometimes used by plovers to nest (USFWS 2007). Thus, the Westlake Farms ponds may represent breeding and foraging habitat for the interior population of snowy plovers. Due to fluctuating water levels and disturbance caused by agricultural equipment and domestic dogs, habitat within these ponds is not considered high quality. Water fluctuates within each pond depending on natural and artificial inputs. Human disturbance from agricultural and levee maintenance regularly occurs adjacent to the ponds. E & E surveyors also observed domestic dogs repeatedly flushing the waterbirds in the southern pond. Consequently, breeding and foraging habitat within the Westlake Farms ponds for this species is considered low quality.

3.4.3 Special Status Avian Species

Peregrine Falcon

During avian surveys at the Westlake Farms ponds in November 2014, a single peregrine falcon was observed flying over and perching near the edge of the pond. The ponds would be considered a major source of prey for the falcon, which primarily feeds on birds. Peregrine falcons are considered a fully protected species by CDFW; they were formerly listed under both the California and federal Endangered Species Acts but have been delisted. Peregrine falcons prefer to nest on cliffs or tall, man-made structures (e.g., buildings, bridges, etc.), but have also been known to nest in former raven nests on power poles and in nest boxes (White et al. 2002). Given the lack of suitable nesting habitat, it is unlikely that peregrine falcons would nest within the greater survey area.

Northern harrier

Northern harriers were observed on numerous occasions throughout the greater survey area, and was seen foraging on the Java Project site. Considered a species of special concern by CDFW, the northern harrier is common in agricultural settings, where they prey on small mammals and birds. Harriers nest on the ground in undisturbed vegetation. While harriers rarely nest in active agricultural areas, they may nest in fallow agricultural fields, especially those near wetlands.

American white pelican and white-faced ibis

American white pelicans and white-faced ibises were observed during surveys at the Westlake Farms ponds. Breeding colonies of these species are considered species of special concern by CDFW. Observations recorded in eBird confirm that both species are present at the ponds year-round. The data do not confirm whether either species breeds at the ponds. Both species are more common at the ponds during migratory and wintering periods than breeding season. The lack of emergent vegetation, islands, or overhanging trees makes the ponds unlikely to host breeding colonies of either species.

Burrowing owl

While no burrowing owls were observed during November 2014 or January 2015 surveys, burrowing owl sign (white wash and small mammal bone) was observed at the entrance to a burrow located in the northern portion of DR-4, adjacent to APN 024-170-011, by an E & E biologist during a site visit in December 2015. The burrowing owl is considered a bird of conservation concern by the USFWS and a species of special concern by CDFW. Burrowing owls inhabit small mammal burrows in areas of sparse, low vegetation, and forage for rodents and insects in agricultural areas, fallow fields, shortgrass prairie, and developed areas. Numerous California ground squirrel burrows were observed in the banks of irrigation ditches and within parcels that are not regularly disked throughout the greater survey area. These burrows could be utilized by burrowing owls.

3.4.4 Special Status Mammals

San Joaquin kit fox

San Joaquin kit foxes were not observed in the greater survey area during surveys. Suitable habitat for San Joaquin kit foxes occurs on the Naval Air Station Lemoore property 3 miles northwest of the Java Project site, as well as within the Kings River corridor 2.3 miles west of the project site. Potential for this species to occur onsite is low due to recurring agricultural disturbances and lack of intact foraging habitat. In addition, there is an active coyote den located within DR-4, which would further discourage kit fox from being present on site. The San Joaquin kit fox is federally listed as endangered and state listed as threatened.

American badger

Badgers were not observed on the Java Project site. The American badger is considered a species of special concern by CDFW. While suitable den sites may be unavailable due to recurring agricultural disturbances, badgers may forage within active or fallow agricultural fields, especially when colonies of California ground squirrels are present.

Fresno and Tipton kangaroo rat

Suitable habitat for the Fresno kangaroo rat and Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) is not present on the Java Project site. The Fresno kangaroo rat is federally and state listed as endangered. The Tipton kangaroo rat is considered a species of special concern by CDFW. An isolated population of Fresno kangaroo rats occurs 3 miles northeast of the survey area on Naval Air Station Lemoore (Morrison et al. 1996). A single CNDDB record of Tipton kangaroo rat exists approximately 0.25 mile north of the survey area. These species require

specific vegetation, soil, and topographical characteristics that have been lost to agricultural disturbance within the survey area.

3.4.5 Special Status Reptiles

Blunt-nosed leopard lizard

The blunt-nosed leopard lizard is listed as both federally and state endangered. No Blunt nosed leopard lizards were observed during surveys, and suitable habitat does not occur on the Java Project site, as this species is typically found in semiarid grasslands, alkali flats, and large washes and arroyos. The nearest CNDDB occurrence to the site is approximately 5.5 miles away, and was observed in 1990. While there are alkali flats within one-half mile of the project area (to the north), it is unlikely this species would occur on the project site, due to the active agricultural operations on adjacent properties.

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Table 1 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific Name	Description & Habitat	Status	Occurrence
Plants				
Recurved larkspur	*Delphinium recurvatum*	Medium-sized, perennial herb with purple flowers, blooming from March through June. Occurs in valley and foothill grasslands, chenopod scrub, and cismontane woodland below elevations of 2,500 feet. Occurs in the Sacramento and San Joaquin Valleys.	1B.2	Low Potential. Marginal, degraded habitat occurs in the survey area. No CNDDB occurrence within 10 miles of the project site, within the past 100 years.
San Joaquin woollythreads	*Monolopia congdonii*	Small, silver-leaved annual forb with yellow disc flowers blooming from April through June. Occurs in grasslands or chenopod scrub on sandy soils. Found between 200 and 2,800 feet. Known to occur in Fresno, Kings, Kern, and Santa Barbara counties.	FE, 1B.2	Low Potential. Marginal, degraded habitat occurs in the survey area. No CNDDB occurrence within 10 miles of project site.
Mud nama	*Nama stenocarpa*	Small, annual or perennial herb that blooms from January to July. Found in freshwater wetlands along the margins of lakes or streams. This species has been documented within 10 miles of the proposed project.	2.2	Low Potential. Marginal, degraded habitat occurs in the survey area. Nearest CNDDB occurrence 8.3 miles southeast of project site, from 1990
Birds				
Tricolored blackbird	*Agelaius tricolor*	Occurs in freshwater marshes of primarily cattails and tule, and nests in herbaceous vegetation or thickets from April through June. Winter foraging and migration occurs also in croplands and pastures. A permanent resident in much of California's Central Valley.	SE	Low Potential. Suitable nesting habitat is not present in the survey area. Marginal nesting habitat occurs within the Westlake Farms ponds adjacent to the survey area. CNDDB occurrence approximately 5.3 miles northwest of site, from 2008.
Burrowing owl	*Athene cunicularia*	Typically occurs in open, dry, annual or perennial grasslands, agricultural areas, and in desert and scrublands characterized by low-growing vegetation. Occupies mammal burrows for shelter and nesting. Occurs over a wide range in western North America.	BCC, SSC	Moderate Potential. Burrowing owl sign were present in an adjacent irrigation ditch off-site. Habitat in the survey area is generally disturbed and unlikely to support nesting pairs. However, foraging and nesting habitat occurs on bordering or adjacent lands. Burrowing owl sign observed on site in December 2015. Nearest CNDDB occurrence 5 miles northwest, from 2000.

Table 1 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific Name	Description & Habitat	Status	Occurrence
Swainson's hawk	*Buteo swainsoni*	Nests and roosts in tall deciduous trees in or near riparian habitats. Foraging occurs in grasslands, irrigated pastures, and grain fields primarily on small mammals, but also reptiles, birds, insects, and occasionally carrion. Known to occur in Kings and Fresno counties.	ST	Moderate Potential. Known to have nested in a eucalyptus tree near the intersection of Kent Avenue and State Route 41 in 2011. Suitable nesting habitat does not occur on the solar facility site, but adjacent parcels could provide foraging and nesting habitat. Four CNDDB occurrences within 10 miles of the project site since 2003.
Western snowy plover (interior population)	*Charadrius alexandrinus nivosus*	Occurs on beaches, dry mud or salt flats, and sandy shores of rivers, lakes, and ponds. Nesting occurs between April and August on the ground where vegetation is sparse or absent. Forages for small invertebrates. Known to occur in Kings County.	SSC	Moderate Potential. Known to occur year-round in the Westlake Farms ponds adjacent to the site. Nearest CNDDB occurrence approximately .5 miles southwest of site (1987). No suitable habitat for this species exists on the solar facility site itself.
Northern harrier	*Circus cyaneus*	Typically favor sloughs, wet meadows, marshlands, swamps, and open plains and grasslands. Ground nesting usually occurs near or on water. Requires open areas with low vegetation for foraging.	SSC	Present. Observed foraging in the eastern portion of the site project site during surveys. Suitable foraging habitat exists in the survey area. Unlikely to nest within the solar facility site.
Peregrine falcon	*Falco peregrinus*	Nests on cliffs, or, rarely, on tall buildings or bridges, generally near water. Forages in a wide range of habitat, including coastal marshes, pastureland, major riverways and lakeshores.	Recovered/Delisted (FE, SE), FP	Moderate Potential. Observed during surveys in the Westlake Farms Ponds. Suitable foraging habitat exists in the survey area. No suitable breeding habitat in the vicinity of the survey area.
Loggerhead shrike	*Lanius ludovicianus*	Occurs in open country with scattered trees or shrubs. Suitable perches on poles or shrubs are important for foraging on insects, reptiles, and small mammals. Has a wide distribution throughout California.	BCC, SSC	Moderate Potential. Suitable foraging habitat exists in the survey area. Unlikely to nest within the solar facility site.
American white pelican	*Pelecanus erythrorynchos*	Breeds on isolated islands in freshwater lakes and forages on inland marshes and lakes, often more than 25 miles from breeding grounds.	SSC (breeding colonies only)	Low Potential. Observed during surveys. Known to occur year-round at Westlake Farms ponds. Unlikely to nest at the Westlake Farms ponds. No suitable breeding habitat occurs on the solar facility site.
White-faced ibis	*Pledagis chihi*	Inland, nests in shallow marshes with emergent vegetation or on spoil banks created by dredging. Forages in shallowly flooded wetlands of short, emergent plants or in agricultural habitats in California.	SSC (breeding colonies only)	Moderate Potential. Observed during surveys. Known to occur year-round at Westlake Farms ponds. Unlikely to nest at the Westlake Farms ponds. No suitable breeding habitat occurs on the solar facility site.

Table 1 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific Name	Description & Habitat	Status	Occurrence
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	Occurs and nests in freshwater wetlands with cattail, tule, or bulrush. Forages in cultivated lands and open fields for seeds and insects. Known to occur in Kings County and over a wide range in North America.	SSC	Low Potential. Suitable nesting habitat is not present on or directly adjacent to the solar facility site. Marginal nesting habitat occurs within the Westlake Farms ponds.
Mammals				
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	Occurs on friable soils in areas with little or no shrub cover and scattered herbaceous plants, including valley grassland, saltbush, and sink scrub. Forages primarily on seeds, but also on vegetation and insects. Known to occur only in Kings, Madera, and Fresno Counties.	FE, SE	Low Potential. Highly degraded habitat occurs in the survey area. One population on Lemoore Naval Air Station has been recorded (approximately 2.5 miles from the survey area) (Morrison et al. 1996).
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	Occurs on friable soils in areas with little or no shrub cover and scattered herbaceous plants, including valley grassland, saltbush, and sink scrub. Forages primarily on seeds, but also on vegetation and insects. Occurs in a limited range from the Carrizo Plain to the Tehachapi area. Known to occur in Kings County.	SSC	Low Potential. Marginal habitat occurs in the survey area. Nearest CNDDB occurrence approximately 0.9 miles north of the project site, from 2008
American badger	*Taxidea taxus*	Occurs in grasslands and scrublands with sparse cover. Excavates burrows for dens and breeding. Forages primarily on burrowing rodents, but also eats small birds, insects, and reptiles. Widely distributed in California and the U.S.	SSC	Moderate Potential. The survey area does not provide optimal habitat, but badgers are known to occur in agricultural and disturbed habitat types.
San Joaquin kit fox	*Vulpes macrotis mutica*	Occurs in valley grassland and foothill woodlands in central and coastal California, including Kings and Fresno counties. Favors low or sparse vegetation for hunting rodents, birds, and insects. Multiple underground dens are used throughout the year. Sometimes uses pipes or culverts as den sites.	FE, ST	Low Potential. Suitable habitat for dens does not occur in the survey area. Nearest CNDDB observations (2) approximately 3.8 miles SE of the project, from 1988 and 1989.
Tulare grasshopper mouse	*Onychomys torridus tularensis*	Occurs in hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Requires an abundant supply of insects.	SSC	Low potential. Marginal and isolated potential habitat exists for this species in the survey area vicinity. California Natural Diversity Database occurrence was recorded in 1931.
Buena Vista Lake shrew	*Sorex ornatus relictus*	Occurs in riparian, marsh and wetland areas, with dense vegetative cover. Associated plants include Fremont cottonwood, willows, glasswort, alkali heath, and Baltic rush. Has a very limited range within the Tulare Basin.	FE	Low Potential. Critical habitat exists approximately 2.5 miles north of project site. No suitable habitat is located on the project site.

Table 1 Special Status Species with the Potential to Occur on the Java Project Site

Common Name	Scientific Name	Description & Habitat	Status	Occurrence
Amphibians				
Western spadefoot	*Spea hammondii*	Occurs in valley and foothill grasslands and river floodplains, in proximity to aquatic resources, or temporary pools, which are required for breeding. Requires loose sandy or gravelly soils for burrowing. Predators include bullfrogs and crayfish in permanent or disturbed wetlands. Known to occur in Kings and Fresno counties.	SSC	Low Potential. Irrigation ditches represent marginal breeding habitat for this species. Upland habitat is highly disturbed and not likely to be used for aestivation. Nearest CNDDB occurrence approximately 10 miles northwest of the project site, from 1998.
Reptiles				
Western pond turtle	*Actinemys marmorata*	Occurs primarily in permanent and intermittent waters of streams, lakes, reservoirs, ponds, marshes, and irrigation canals, including in brackish water. Found throughout California west of the Sierras. Known to occur in Kings and Fresno counties	SSC	Low Potential. Irrigation ditches represent marginal breeding habitat for this species. Upland habitat is highly disturbed and not likely to be used for aestivation. Nearest CNDDB occurrence approximately 3 miles east of the project, from 1998.
Blunt-nosed leopard lizard	*Gambelia sila*	Occurs in semiarid grasslands, alkali flats, low foothills, and large washes and arroyos, usually on sandy, gravelly, or loamy substrate. Rare or absent in dense vegetation. Depends on existing small rodent burrows for cover. Found between 500 and 1,200 feet in the San Joaquin and adjacent valleys, from Merced to Santa Barbara counties.	FE, SE, FP	Low Potential. Habitat in the survey area is in active agricultural use and does not represent preferred habitat for this species. Nearest CNDDB occurrence to the site is approximately 5.5 miles away, and was observed in 1990

References: CNDDB 2015, IPaC 2016

Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
BCC = US Fish and Wildlife Service bird of conservation concern.

State

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
1B.1 = Rare, threatened, or endangered in California and elsewhere. Extremely endangered in California.
1B.2 = Rare, threatened, or endangered in California and elsewhere. Moderately endangered in California.

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4 Discussion

In general, the overall physical characteristics of the Java Project site make it unsuitable as habitat for special status plant and wildlife species. The survey area undergoes frequent soil and other human-related disturbances, primarily due to intensive and continuous agricultural activities. Land adjacent to the project parcels are farmed for row crops or livestock and tilled regularly for weed, pest, and fire-control purposes. The survey area generally does not contain trees, but several trees are present in areas immediately adjacent to the site (Figure 3).

Four special status bird species were observed during surveys: American white pelican, northern harrier, white-faced ibis, and peregrine falcon. Western snowy plover and Swainson's hawk were not observed during surveys, but are known to occur in the survey area. While no burrowing owl individuals were observed during the preliminary surveys, burrowing owl sign (white wash and small mammal remains outside a burrow) was observed on a subsequent site visit in December 2015, adjacent to APN 024-170-011. Habitat is present for other special status species such as burrowing owl and American badger. Below is a discussion of potential impacts and recommended avoidance and mitigation measures.

4.1 Aquatic Habitat and Wetlands

While there are no wetlands or ponds located on the Java Project site, there are several irrigation ditches on and adjacent to the site. As of April 2015, USACE has issued a preliminary jurisdictional determination (JD) regarding the irrigation ditches within and adjacent to the Java Project site, concurring that these ditches "may be jurisdictional". Confirmation of jurisdiction of these features from the USACE would be required prior to the start of construction to verify that the Java Project's impacts to feature DR-4 would not implicate jurisdiction under CWA, Section 401 and 404. If the Corps determines this feature is, in fact, jurisdictional, the Java Project would comply with the terms and conditions of any permits required by the USACE, RWQCB, and CDFW. DR-1, running through APN 024-170-011, will be avoided during construction by implementing a construction free buffer. An additional irrigation ditch (DR-3) is adjacent to the road located just south of APN 024-170-010 on a neighboring property and is not expected to be impacted by the Java Project.

4.2 Common and Special Status Birds

4.2.1 Swainson's Hawk

Swainson's hawks, listed as threatened under the CESA, are known to nest in the vicinity of the Java Project site. In 2011, a Swainson's hawk pair nested in a eucalyptus along Kent Avenue, south of the poultry facility adjacent to the southern border of the Java Project site. CDFW protects Swainson's hawk nests for five years after the first use, even if the species does not use the nest in the intervening time (CDFG 1994). Since 2011, there is no additional data on the nesting location use. One or two Swainson's hawks have been observed at the Westlake Farms ponds every year since 2009, meaning that it is likely that a single pair consistently returns to the area (eBird 2014). Furthermore, Swainson's hawks exhibit a high degree of nest fidelity. It is highly likely that Swainson's hawks may re-nest in the Kent Avenue tree or another tree nearby; however, with implementation of avoidance measures the project is not anticipated to impact Swainson's hawks.

Standard avoidance and mitigation measures for Swainson's hawks include preconstruction surveys within 0.5 mile of construction areas within the breeding season and the creating a 0.25-mile buffer around active nests.In addition, nest trees should not be removed unless avoidance is infeasible and, only then, outside the breeding season and with approval from CDFW.

4.2.2 Western Burrowing Owl

Field surveys identified potential nesting and foraging habitat on the Java Project site for western burrowing owl. Although no burrowing owls were observed during surveys, burrowing owl sign were observed within irrigation ditch DR-4, adjacent to APN 024-170-011. Burrowing owls typically inhabit vacant burrows of ground squirrels and other small mammals, and several California ground squirrel burrows were observed along the banks of irrigation ditch DR-4 located on the Java Project site during surveys. The CNDDB (2015) records include observations of this species within 2 miles of the Java Project site. The existence of suitable habitat on the Java Project site and the observance of burrowing owl sign adjacent to the site indicate that this species has a potential to occur on the Java Project site.

Direct impacts on burrowing owls from construction and operation of the project could result from ground-disturbing activities that may inadvertently collapse or block burrows (CDFG 2012). Indirect impacts on nesting owls could result from increased human activity, noise, and visual disturbances. Potential foraging areas onsite would be permanently removed during construction. Impacts on this species would be reduced through implementation of project design features such as preconstruction clearance surveys, nesting bird protection measures, and burrowing owl protocol-level surveys.

4.2.3 Western Snowy Plover

Western snowy plovers are known to occur year-round in the Westlake Farms ponds. Suitable wintering and low-quality breeding habitat is present in the flooded southern ponds (Ponds A and B). The dry northern pond (Pond C) represents low-quality wintering and breeding habitat. Farm and construction vehicles and equipment are common along SR 41 and the surrounding roadways. Project construction activities are consistent with common existing activity in the vicinity of the Java Project site.

Construction would not occur within habitat suitable for snowy plover, or directly affect nesting or foraging habitat for this species. Construction activities would be limited to areas directly adjacent to existing roadways and areas outside pond levees. Preconstruction surveys for snowy plovers and other nesting birds would be undertaken if construction is anticipated to occur within 500 feet of suitable plover habitat during breeding season. If plovers are present, their behavior would be monitored within 500 feet of construction activities.

4.2.4 Nesting and Wintering Birds

The Westlake Farms ponds represent suitable breeding habitat for waterbirds, as well as brushy parcel edges and vegetated irrigation ditches in the vicinity of the Java Project site. The Cornell Lab of Ornithology's eBird database indicates that more than 40 waterbird species, including ducks, herons, egrets, ibis, coots, stilts, sandpipers, and terns, are present at the pond during the breeding season. Upland birds will nest within vegetation along parcel edges, on the ground, within isolated trees or tree rows, or in man-made structures. There were 41 bird species recorded during surveys in November 2014 and January 2015. Of these species, 20 were waterbirds observed wintering within the Westlake Farms ponds.

Construction activities and project infrastructure have the potential to injure or kill individual birds as birds may be struck by project vehicles or equipment, or their nests disturbed or destroyed. Noise, human presence, dust, and predators attracted to the project may contribute to decreased nest success. Therefore, SunPower would complete preconstruction surveys for nesting birds. Exclusion buffers will be erected around active bird nests and will remain in place until the nest fails or chicks fledge. Construction-related avian mortalities will be reduced by maintaining low vehicle speeds onsite and regularly monitoring active nests near construction areas. With these measures in place, the project is not anticipated to impact large numbers of migratory birds.

4.3 Special Status Mammals

Suitable burrows or habitat does not exist for San Joaquin kit fox or Fresno or Tipton kangaroo rats within the project parcels. The presence of an active coyote den on site further precludes kit fox from being present on site. Marginal habitat for American badger is present within the project parcels. Preconstruction surveys would be undertaken to identify potential burrows of these species. If occupancy is confirmed, exclusion buffers will be created around the burrow or burrow complex until a qualified biologist determines that it is no longer in use.

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A Wildlife and Plant Species Observed Within the Survey Area

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Table A1 Wildlife Observed in the Survey Area

Common Name (Scientific Name)	General Location
Mammals	
black-tailed jackrabbit (*Lepus californicus*)	throughout
California ground squirrel (*Spermophilus beecheyi*)	throughout
cottontail rabbit (*Sylvilagus audubonii*)	throughout
coyote (*Canis latrans*)	throughout (prints, scat, and carcass)
fox spp. (*Vulpes* sp.)	ponds only (prints and skull)
raccoon (*Procyon lotor*)	irrigation ditches (prints)
Birds	
American avocet (*Recurvirostra americana*)	ponds only
American coot (*Fulica americana*)	ponds only
American crow (*Corvus brachyrhynchos*)	throughout
American kestrel (*Falco sparvarius*)	throughout
bank swallow (*Riparia riparia*)	throughout
black necked stilt (*Himantopus mexicanus*)	ponds only
black phoebe (*Sayornis nigricans*)	throughout
Brewer's blackbird (*Euphagus cyanocephalus*)	throughout
bufflehead (*Bucephala albeola*)	ponds only
eared grebe (*Podiceps nigricollis*)	ponds only
European starling (*Sturnus vulgaris*)	throughout
great blue heron (*Ardea herodias*)	throughout
great egret (*Ardea alba*)	throughout
great horned owl (*Bubo virginianus*)	throughout
herring gull (*Larus argentatus*)	ponds only
horned lark (*Eremophila alpestris*)	throughout
killdeer (*Charadrius vociferous*)	throughout
least sandpiper (*Calidris minutilla*)	ponds only
lesser goldfinch (*Spinus psaltria*)	throughout
long-billed dowitcher (*Limnodromus scolopaceus*)	ponds only
marsh wren (*Cistothorus palustris*)	ponds only
mourning dove (*Zenaida macroura*)	throughout
northern harrier (*Circus cyaneus*)*	throughout
northern pintail (*Anas acuta*)	ponds only
northern shoveler (*Anas clypeata*)	ponds only
Oregon junco (*Junco hyemalis oregonus*)	throughout
peregrine falcon (*Falco peregrinus*)*	ponds only
red-tailed hawk (*Buteo jamaicensis*)	throughout
ruddy duck (*Oxyura jamaicensis*)	ponds only
savannah sparrow (*Passerculus sandwichensis*)	throughout
Say's phoebe (*Sayornis saya*)	throughout
song sparrow (*Melospiza melodia*)	throughout
snow goose (*Chen caerulescens*)	ponds only
turkey vulture (*Cathartes aura*)	throughout
western meadowlark (*Sturnella neglecta*)	throughout
western sandpiper (*Calidris mauri*)	ponds only
white-crowned sparrow (*Zonotrichia leucophrys*)	throughout
American white pelican (*Pelecanus erythrorhynchos*)*	ponds only
white-faced ibis (*Plegadis chihi*)*	ponds only
willet (*Tringa semipalmata*)	throughout
yellow-rumped warbler (*Setophaga coronata*)	throughout
* = Special status species	

Table A2 Plants Observed in the Survey Area

Wetland Indicator Status	Scientific Name and Family	Common Name
	Aizoaceae	**Iceplant Family**
FACW	*Sesuvium verrucosum*	western sea purslane
	Asteraceae	**Sunflower Family**
NI	*Acroptilon repens**	Russian knapweed
NI	*Ambrosia acanthicarpa*	annual burrweed
NI	*Centaurea melitensis**	tocalote
FACW	*Euthamia occidentalis*	western goldenrod
FACU	*Helianthus annuus*	common sunflower
FACU	*Isocoma acradenia*	alkali goldenbush
FACU	*Lactuca serriola**	prickly lettuce
FAC	*Sonchus asper ssp. asper**	prickly sow thistle
	Boraginacea	**Borage Family**
FACU	*Heliotropium curassavicum*	heliotropium
	Brassicaceae	**Mustard Family**
NI	*Brassica nigra**	black mustard
NI	*Hirschfeldia incana**	short-podded mustard
	Chenopodiaceae	**Goosefoot Family**
FACW	*Allenrolfea occidentalis*	iodine bush
FAC	*Atriplex argentea*	silverscale saltbush
FAC	*Atriplex lentiformis*	big saltbush
FACU	*Atriplex polycarpa*	allscale saltbush
FAC	*Atriplex semibaccata**	Australian saltbush
FAC	*Bassia hyssopifolia**	five horn bassia
FACU	*Chenopodium album**	lamb's quarters
FACU	*Salsola tragus**	Russian thistle
OBL	*Suaeda nigra*	bush seepweed
	Convolvulaceae	**Morning glory Family**
FACW	*Cressa truxillensis*	alkali weed
	Cyperaceae	**Sedge Family**
FACW	*Cyperus eragrostis*	tall cyperus
	Fabaceae	**Legume or Pea Family**
FAC	*Medicago lupulina**	black medic
UPL	*Medicago sativa***	alfalfa
	Frankeniaceae	**Frankenia Family**
FACW	*Frankenia salina*	alkali heath
	Geraniaceae	**Geranium Family**
NI	*Erodium cicutarium*	red stemmed filaree
	Juncaceae	**Rush Family**
FACW	*Juncus effuses*	common rush
	Lythraceae	**Loosestrife Family**
NI	*Punica granatum***	pomegranate

Table A2 Plants Observed in the Survey Area

Wetland Indicator Status	Scientific Name and Family	Common Name
	Malvaceae	**Mallow Family**
NI	*Gossypium* sp.**	cotton
NI	*Malva parviflora**	cheeseweed
FACU	*Malvella leprosa*	alkali mallow
	Myrtaceae	**Myrtle Family**
NI	*Eucalyptus* sp.* (likely *globulus*)	Eucalyptus species
	Poaceae	**Grass Family**
NI	*Avena fatua**	wildoats
UPL	*Bromus* sp. (likely *madritensis*)*	brome
FACU	*Cynodon dactylon**	bermudagrass
FAC	*Distichlis spicata*	salt grass
FAC	*Hordeum marinum**	seaside barley
FACW	*Leptochloa fusca* ssp. *fascicularis*	bearded sprangletop
FAC	*Phalaris paradoxa*	hood canarygrass
	Plantaginaceae	**Plantain Family**
FAC	*Plantago lanceolata*	buckhorn plantain
	Polygonaceae	**Knotweed Family**
FAC	*Rumex crispus**	curly dock
	Pontederiaceae	**Pickerel-weed Family**
OBL	*Eichhornia crassipes**	water hyacinth
	Salicaceae	**Willow Family**
NI	*Populus fremontii*	Fremont cottonwood
FACW	*Salix gooddingii*	Gooding's black willow
	Tamaricaceae	**Tamarix Family**
FAC	*Tamarix chinensis**	salt cedar
	Typhaceae	**Cattail Family**
OBL	*Typha latifolia*	broadleaf cattail

Key:
* = non-native species
** = agricultural crop
FACU = facultative upland plant; usually occurs in uplands, but may occur in wetlands
FACW = facultative wetland plant; usually occur in wetlands, but may occur in non-wetlands
FAC = facultative plant; occur in wetlands and non-wetlands
OBL = obligate wetland plant; almost always occurs in wetlands
UPL = obligate upland plant; almost never occurs in wetlands
NI = no indicator status given

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B Representative Site Photos

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Photo 1. Project overview (APN 024-170-010).

Photo 2. Spreading alkaliweed in the western third of APN 024-170-010.

Photo 3. View of Westlake Farms North ponds from Kent Avenue.

Photo 4. View of poultry farm south of APN 024-170-010.

Photo 5. Ruderal vegetation south of access road south of APN 024-170-010.

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Appendix B2

ecology and environment, inc.

Results of Burrowing Owl Surveys: February and March 2016
Java Solar Project, Kings County, California
Prepared June 10, 2016

Introduction

In February and March 2016, biologists from Ecology and Environment, Inc. (E & E) conducted surveys to identify the presence of burrowing owls (*Athene cunicularia*) on the Java Project site. In December 2015, secondary evidence of western burrowing owl (white wash and prey remains) was observed within an irrigation ditch adjacent to the Java Project site by an E & E biologist.

The Java Project site is a 13.5-megawatt (MW), alternating current, photovoltaic (PV) solar energy generation facility in northwestern Kings County near the unincorporated community of Stratford. The Project site is located on approximately 96 acres of private agricultural lands (Assessor's Parcel Number [APN] 024-170-010 and APN 024-170-011).

The Java Project site is located in northwestern Kings County, California, approximately 4 miles southwest of the City of Lemoore and 2.5 miles northeast of the town of Stratford (Figure 1). The site is within the Stratford 7.5 minute U.S. Geological Survey (USGS) topographic quadrangle. The survey area consisted of the 96-acre Project site and approximately 500 feet outside the site where suitable habitat occurs on adjacent parcels (Figure 1, "Survey Area"). The Project site consists of fallow agriculture and an overgrown, abandoned pomegranate orchard on APN 024-170-011. Immediately to the west of the Project site is Highway 41, and the surrounding parcels consist of fallow agriculture, active agriculture adjacent east of the site, and a turkey farm operation immediately south of APN 024-170-010.

Methods

E & E biologists conducted surveys for western burrowing owl on the Java Solar Site on the following dates: February 25, March 16, and March 28, 2016. Two biologists conducted the February survey, and the subsequent March surveys were completed by one biologist. Surveys consisted of walking transects, covering 100-percent of the Project site, and using binoculars to survey adjacent parcels. All surveys began in the morning and ended in the late morning or early afternoon. Potentially suitable burrows were mapped using a handheld Garmin GPS device.

Results

No burrowing owl individuals or secondary sign was observed by E & E biologists during surveys. Burrows of suitable size occur throughout the Project site, including in the irrigation ditch running north-south through and adjacent to the Project site (Figure 2).

During the February 25th survey, the vegetation throughout the Project site was relatively low (<1 foot), with the exception of the eastern one-third of parcel 024-170-010, which consisted of dense clusters of Russian thistle. During the subsequent March surveys the vegetation throughout the site was much taller and denser. Parcel 024-170-011 was especially overgrown with mustard and fiddleneck 2 to 3 feet tall.

Common wildlife observed on-site while completing the surveys included black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), cottontail rabbit (*Sylvilagus bachmani*), great egret (*Ardea alba*), killdeer (*Charadrius vociferous*), mourning dove (*Zenaida macroura*), and song sparrow (*Melospiza melodia*). Northern harrier (*Circus cyaneus*) and red-tailed hawk (*Buteo jamaicensis*) were observed flying over the project site. Coyote (*Canis latrans*) scat and prints were found along the north-south irrigation ditch, and throughout the project area, though no individuals were observed during any of the surveys.

Discussion

Preferred habitat for burrowing owl generally consists of short, sparse vegetation with level topography. They may occur in agricultural areas and ruderal grassy fields in which the vegetation structure is suitable, and there are usable burrows (CDFG 2012). The significantly overgrown vegetation on APN 024-170-011 and the eastern two-thirds of 024-170-010 makes much of the site relatively unsuitable, and it is unlikely that burrowing owls would occur on site during this time of the year. The site appears more likely to host burrowing owls in the winter season when the vegetation structure is sparser, as evidenced by the secondary sign observed in December 2015 in the north-south irrigation ditch adjacent to the APN 024-170-011. Although burrows of suitable size were found throughout the western two-thirds of the Java Project site, burrows located within the north-south irrigation ditch were deemed to be the most suitable. The soils on APN 024-170-010 were unstable and friable, making burrows located within this APN more susceptible to collapse and therefore relatively unsuitable for use by burrowing owls.

It can be concluded from the negative results of the surveys that at the time of the March 28th survey, there were no burrowing owls currently inhabiting the site. Suitable habitat and burrows do exist within the survey area and in particular within the irrigation ditch running north-south through the Java Project site. As such, burrowing owls may migrate to the site at a later time, and it is recommended that pre-construction (take avoidance) surveys be completed prior to any ground disturbing activities or construction.

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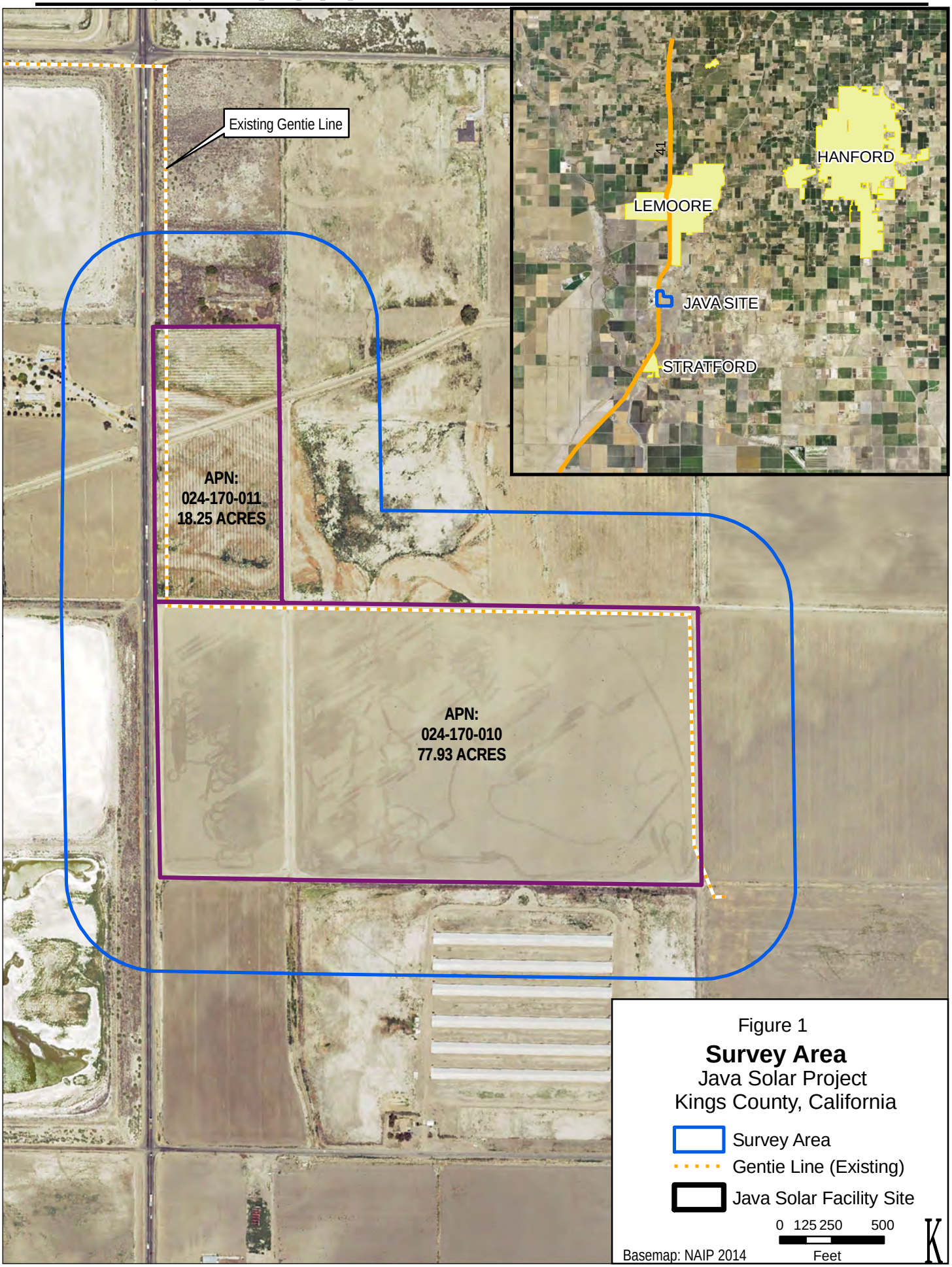

Figure 1

Survey Area

Java Solar Project

Kings County, California

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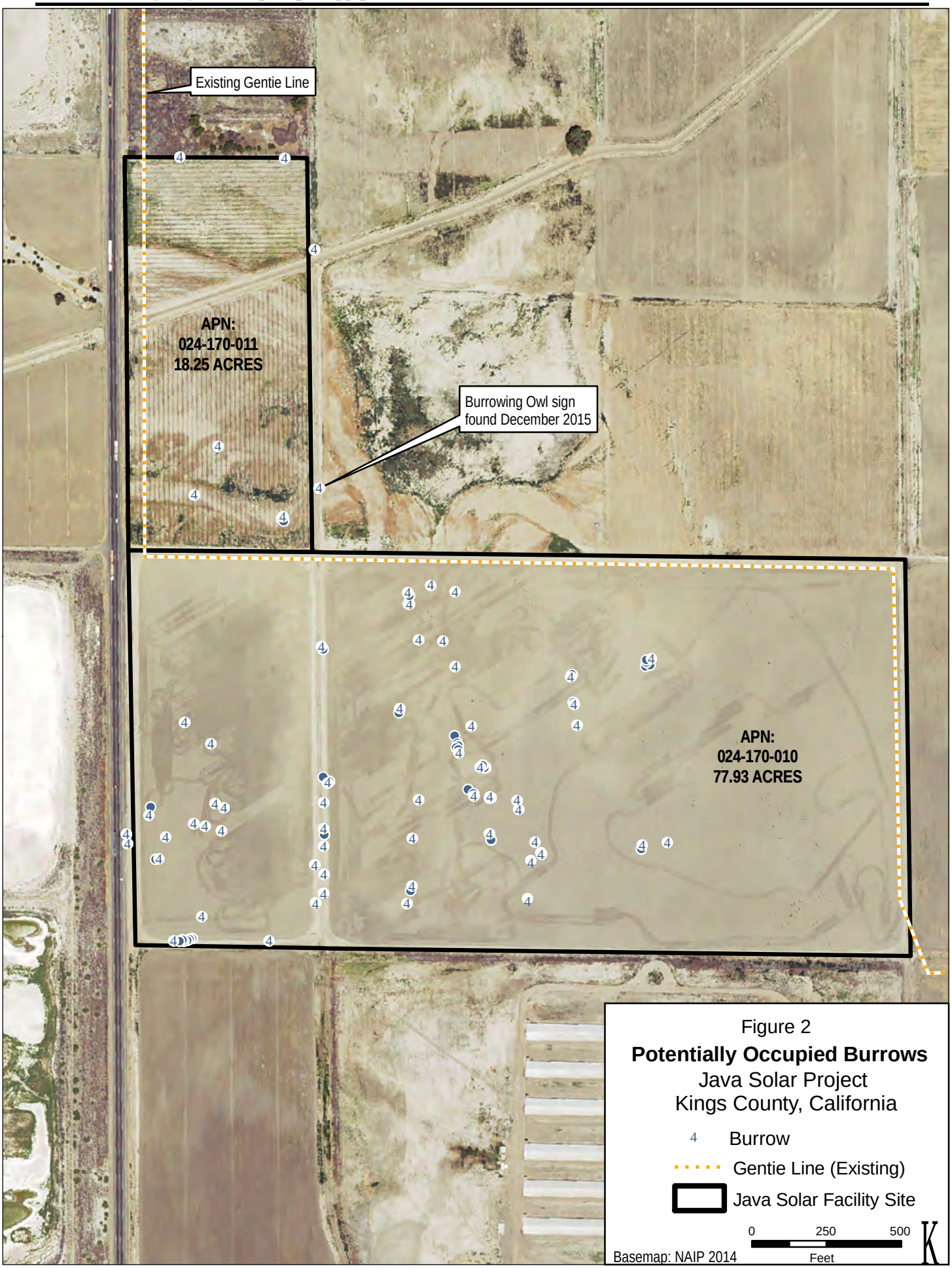

Photo 1. Burrowing owl sign (whitewash) observed by E & E biologist in December 2015.

Photo 2 (oriented north). North-south irrigation ditch adjacent to APN 024-170-011, taken 3/16/2016.

Photo 3 (oriented northwest). APN 024-170-011

Photo 4 (oriented southeast). Western one-third of APN 024-170-010.

Photo 5 (oriented southwest). Eastern two-thirds of APN 024-170-010.

Appendix C

PHASE I SURVEY/CLASS III INVENTORY, JAVA SOLAR PROJECT, KINGS COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY

ASM Affiliates, Inc. (ASM) conducted an intensive Phase I cultural resources survey/Class III inventory for an approximately 96-acre Java Solar Project, Kings County, California.

This cultural resources study was undertaken to provide compliance with the California Environmental Quality Act (CEQA). David S. Whitley, Ph.D., RPA, served as principal investigator. Background studies and fieldwork for the survey were completed from June to July 2015.

A records search of study area files and maps was conducted at the Southern San Joaquin Valley Archaeological Information Center (AIC), California State University, Bakersfield, and a search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed. These investigations determined that two surveys had covered portions of the study area, and that no sites, sacred lands, or significant or unique cultural resources had been identified.

The Phase I survey/Class III inventory fieldwork was conducted in July and December 2015. No cultural resource sites were identified, although two isolated surface specimens were identified, recorded and collected, one of which is a human cranial fragment, which has been turned over to the Santa Rosa Rancheria Tachi-Yokut tribe for repatriation. Development of the project area will not result in adverse impacts to significant historical resources. It is recommended that any ground surface disturbance be monitored in light of the discovery of the cranial fragment.

1. INTRODUCTION AND REGULATORY CONTEXT

At the request of Ecology and Environment, Inc., San Francisco, California, an intensive Phase I cultural resources survey/Class III inventory was conducted for the Java Solar Project study area, Kings County, California. The study area covers approximately 96-acres, and is shown on Figure 1.

This study was conducted to provide compliance with California Environmental Quality Act (CEQA); specifically to evaluate potential impacts on cultural resources from construction and operation of solar energy generation. It included the following tasks:

- A background records search and literature review to identify and evaluate previous cultural resources studies of the study area;
- A search of the NAHC *Sacred Lands File* to determine if any traditional cultural places or cultural landscapes have been identified within the study area;
- An on-foot, intensive inventory of the study area to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the study area.

This study was conducted by ASM Affiliates, Inc., of Tehachapi, California, in June – July, and December, 2015. David S. Whitley, Ph.D., RPA, served as principal investigator, with Cris Lowgren, M.A., and Robert Azpitarte, B.A., Associate Archaeologists, and Mike Huerta, B.A., and Morgan Bird, B.A., Assistant Archaeologists, assisting with the fieldwork. The Santa Rosa Rancheria Cultural and Historical Preservation Department served as Native American liaisons/monitors for the study.

This manuscript constitutes a report on the Phase I survey/Class III inventory. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; a summary of the field surveying techniques employed; the results of the fieldwork; and conclusions.

1.1 STUDY AREA LOCATION

The study area is located approximately 2.5 miles northeast of Stratford and 4 miles south of Lemoore, Kings County, California (Figure 1). Areas adjacent to the study area include the Henrietta Solar Project, and agricultural fields, and it abuts State Highway 41 (20th Avenue) on the west, and is north of Kent and south of Jersey Streets. A retention basin is located to the northwest of the study area, which includes approximately 90 acres in Section 33, Township 19 South, Range 20 East (T19S/R20E), Mount Diablo Base and Meridian (MDBM).

The study area is on the open flats of the southern San Joaquin Valley; a large interior and relatively low-lying valley that drains northwards to the San Francisco Bay. While the study area is a significant distance from the Pacific Ocean, elevation is only approximately 210 feet above mean sea level (amsl).

1.2 REGULATORY CONTEXT

1.2.1 California Environmental Quality Act

Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely impacted. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). Under CEQA, significant impacts to cultural resources are those that alter or destroy prehistoric or historical archaeological sites, features and artifacts, and historical properties (e.g., buildings) that are themselves determined to be significant or unique. In practice, the federal National Register of Historic Places (NRHP) criteria for significance applied under Section 106, discussed below, are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(A) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Are associated with the lives of persons important in our past;

(C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

1.2.2 National Historic Preservation Act

National Historic Preservation Act (NHPA) Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies, regardless of whether the activities occur on land that is managed by federal agencies, other governmental agencies, or private landowners. Its purpose is to determine whether adverse effects will occur to significant cultural

resources, defined as "historical properties" that are listed in or determined eligible for listing in the NRHP. The criteria for NRHP eligibility are defined at 36 CFR § 60.4 as follows:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:
> (a) Are associated with events that have made a significant contribution to the broad patterns of our history; or
> (b) Are associated with the lives of persons significant in our past; or
> (c) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> (d) Have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions on the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

> Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
> (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
> (b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
> (c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.
> (d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
> (e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
> (f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
> (g) A property achieving significance within the past 50 years if it is of exceptional importance [http://www.achp.gov/nrcriteria.html].

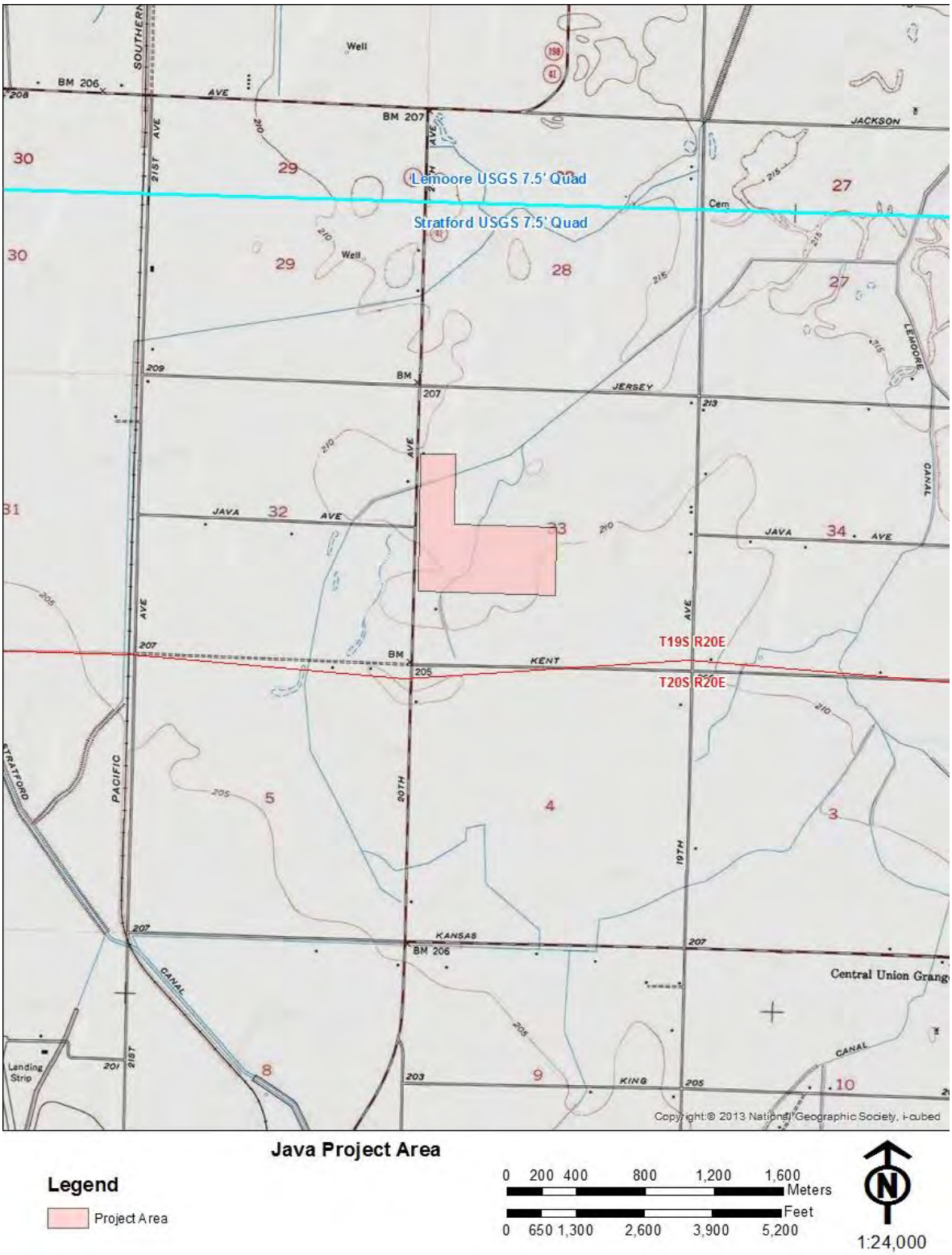

Figure 1 Java Solar Project Study Area, Kings County, California.

2. ENVIRONMENTAL AND CULTUAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND

The study area is south of Lemoore and is on the open flats of the San Joaquin Valley at approximately 210 feet amsl. Currently it may be characterized as a dry open valley bottom, but it is adjacent to the former shoreline of Tulare Lake, at roughly 200 feet amsl, and is a short distance west of Mussell Slough. Prior to reclamation and channelization, the region would have been a low lying, water rich area characterized by sloughs, marshes, and swamps. Occasionally inundated by floodwaters, in most years the region would have been a swamp during the winter rainy season and marsh land during other parts of the year.

Historical and recent land-use has changed the vegetation that was once present within and near the study area, which now consists of agricultural fields bordering paved roads. The study area itself had been plowed but was fallow at the time of the survey (Figure 2). Riparian Woodlands were likely present along Fish Slough east of the study area. Although the study area may have included the Valley Grassland community, depending upon drainage and seasonal storm systems, freshwater marshes are more likely to have been present (see Schoenherr 1992).

Figure 2. Fallow fields comprising the Java study area, looking northwest.

2.2 ETHNOGRAPHIC BACKGROUND

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), Latta (1977) and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

This scarcity of specific detail is particularly apparent in terms of southern valley tribal group distribution. Latta (1977) places the north shore of Tulare Lake east of Fish Slough in Nutúnutu territory, with the closest village being *Wiu* nearer the Mussel Slough inlet. Kroeber (1925:484), however, indicates that Nutúnutu territory did not include the north shore of Tulare Lake, but that the north shore, including Fish Slough, was Tachi territory. The village of *Wiu* (*Wiau* in Kroeber [1925]) remains near the inlet of Cottonwood Creek and Mussel Slough. Regardless of tribal affiliation, historical village distribution was similar across the region. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples (Kroeber 1925).

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the *winatum*, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of

natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokut peoples currently live at or are associated with the Santa Rosa Rancheria, located approximately two miles northeast of the study area. This was created for the federally-recognized Tachi Yokut Tribe in 1934. The Rancheria currently includes approximately 1800 acres and has a resident population of about 650 individuals.

2.3 ARCHAEOLOGICAL BACKGROUND

The southern San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenk 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the *Paleoindian Period*, or prior to about 10,000 years before present (YBP). Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper.

Both fluted and stemmed points are particularly common around lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very mobile populations that left a minimal archaeological signature.

Substantial evidence for human occupation of California first occurs during the middle Holocene, roughly 7500 to 4000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with tool-kits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the state, partly due to a severe cold and dry paleoclimatic period occurring at this time. Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4000 YBP during the *Middle Horizon* (or Intermediate Period). This period known climatically as the Holocene Maximum (circa 3800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. Archaeologically, it was marked by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmiller culture, which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps to have brought this technology with them (cf. Moratto 1984). Likewise it appears the so-called "Shoshonean Wedge" in southern California or the Takic speaking groups that include the Gabrielino/Fernandeño, Tataviam and Kitanemuk, may have moved into the region at this time, rather than at about 1500 YBP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W & S Consultants 1994). To the

west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W & S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W & S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W & S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes and an increase in the range of environments exploited appear to have occurred sometime roughly around 4,000 years ago. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent this was a major southern California-wide occurrence and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests the origins of the tribelet level of political organization developed during this period (W & S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the study area, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1500 and 800 YBP, with a consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (AD 800 to 1200) in the understanding of south-central California. This corresponds to the so-called Medieval Climatic Anomaly, a period of climatic instability that included major droughts and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is also believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90 percent of the interior populations in some regions including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages. What is clear is that Middle Period villages and settlements were widely dispersed across the landscape; many at locations that lack contemporary evidence of fresh water sources. Late Horizon sites, in contrast, are typically located where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1,500 – 500 YBP) is the Redfeldt Mound (CA-KIN-35), located less than two miles southeast of the study area. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The subsequent Late Horizon can be best understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California; suggesting that ethnographic life-ways recorded by anthropologists extend roughly 800 years into the past.

The position of southern San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms can be

expected to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007) environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.4 HISTORICAL BACKGROUND

Spanish explorers first visited the southern end of the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2003). The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2003).

After the American annexation of California, the southern San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep and pig (Boyd 1997).

With the increase of ranching in the southern San Joaquin came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

Following the passage of state wide 'No-Fence' laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties.

During the period of reclaiming unproductive land in the southern San Joaquin Valley, grants were given to individuals who had both the resources and the finances to undertake the operation alone. One small agricultural settlement, founded by Colonel Thomas Baker in 1861 after procuring one such grant, took advantage of reclaimed swampland along the Kern River. This settlement became

the City of Bakersfield in 1869, and quickly became the center of activity in the southern San Joaquin Valley, and in the newly formed Kern County. Located on the main stage road through the San Joaquin Valley, the town became a primary market and transportation hub for stock and crops, as well as a popular stopping point for travelers on the Los Angeles and Stockton Road. The Southern Pacific Railroad reached the Bakersfield area in 1873, connecting it with important market towns elsewhere in the state, dramatically impacting both agriculture and oil production (Pacific Legacy 2006). In 1877, what is now Kings County received its first railroad stop in the town of Hanford. Later that same year, the railroad came to the town of Lemoore (Semas 2005).

The San Joaquin Valley was dominated by agricultural pursuits until the oil boom of the early 1900s, which saw a shift in the region, as some reclaimed lands previously used for farming were leased to oil companies. Nonetheless, the shift of the San Joaquin Valley towards oil production did not halt the continued growth of agriculture (Pacific Legacy 2006). The Great Depression of the 1930s brought with it the arrival of great number of migrants from the drought-affected Dust Bowl region, looking for agricultural labor. These migrants established temporary camps in the valley, staying on long past the end of the drought and the Great Depression, eventually settling in towns such as Bakersfield where their descendants live today (Boyd 1997).

The town of Lemoore, the largest population center near the study area, has its origins in the late 1800s as people settled the region for agricultural pursuits. Lemoore Naval Air Station (LNAS) was constructed outside of Lemoore in 1959 (Semas 2005).

3. ARCHIVAL RECORDS SEARCH

An archival records search was conducted at the California State University, Bakersfield, Southern San Joaquin Valley Archaeological Information Center (AIC), by AIC staff members to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study area; (ii) if the project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Additionally, a search of the NAHC *Sacred Lands File* was conducted in order to ascertain whether traditional cultural places or cultural landscapes had been identified within the area of potential effect (APE) (see Confidential Appendix A). The results of this archival records search are summarized here.

The records search at the AIC indicated that two previous archaeological surveys had been completed that covered portions but not all of the study area (Table 1). An additional three previous archaeological surveys had been conducted within 0.5 mi of the study area (Table 2). The previous surveys did not identify cultural resources within the study area; however, five isolated artifacts were identified and recorded southeast of the study area.

The NAHC *Sacred Lands File* did not indicate the presence of any cultural places within the study area. Discussions with the Santa Rosa Rancheria Cultural and Historical Preservation Department, however, indicated that recorded (and potentially not-yet recorded) cultural resources are present within the vicinity of the study area. They view the location as archaeologically sensitive for that reason.

Table 1 Survey Reports Within the APE.

Report No	Year	Author (s)/Affiliation	Title
KI-00063	1988	Lawrence E. Welgel	Negative Archaeological Survey Report: 06-KIN-41 P.M. 33.0/39.6 06200-281400
KI-00196	2010	Laura Leach-Palm, Paul Brandy, Jay King, Pat Mikkelson, Libby Seil, Lindsey Hartman, and Jill Bradeen/ Far Western and JRP Historical Consulting	Cultural Resources Inventory of Caltrans District 6 Rural Conventional Highways in Fresno, Western Kern, Kings, Madera, and Tulare Counties, Summary of Methods and Findings Contract No. 06-0A7408

Table 2 Survey Reports Within 0.5 Miles of the APE.

Report No	Year	Author (s)/Affiliation	Title
N/A	2015	David Whitley and Peter Carey/ASM Affiliates	Henrietta Project Phase I survey, Kings County, California
N/A	2014	G. Timothy Gross/Ecology and Environment	Supplemental Cultural Resources Study Henrietta Solar Project PG&E Leprino Switching Station
N/A	2011	Michael Dice, Arabesque Said, and David Cohen/Michael Brandman Associates	Cultural Resource Survey of the SunPower Henrietta Solar Project, County of Kings, California

4. METHODS AND RESULTS

4.1 METHODS

The field investigation consisted of an intensive pedestrian survey of the study area, which was conducted by the field crew walking parallel transects spaced at 15 meter intervals. The survey included, as applicable, identification of surface artifacts (both prehistoric and historic) and/or archaeological deposits (e.g., organically enriched midden soil); tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms.

Special attention was paid to rodent burrow back dirt piles, in the hope of identifying sub-surface soil conditions that might be indicative of archaeological features or remains. No cultural resources were collected during the survey.

David S. Whitley, Ph.D., RPA, served as principal investigator, with Cris Lowgren, M.A., and Robert Azpitarte, B.A., Associate Archaeologists, and Mike Huerta, B.A., and Morgan Bird, B.A., Assistant Archaeologists, assisting with the fieldwork. Fieldwork was conducted in July and August 2015. Soils throughout the study area are sandy-silty alluvium with very few lithic clasts, reflecting a soils origin in deltaic processes.

4.2 INVENTORY RESULTS

No prehistoric or historical archaeological sites were identified during the Phase I survey/Class III inventory of the Java Solar Project study area. Two isolated surface specimens were identified, recorded and collected (Confidential Appendix B) however. Java Isolate #1 is a small fragment of a human cranium, measuring 2.2 x 1.1 x 0.7–cm in size. It has been weathered and eroded, probably due to agricultural activities. Upon discovery, the specimen was GPS-mapped, collected and turned-over to the Santa Rosa Rancheria Tachi-Yokut Tribe for repatriation. The Kings County Coroner and the Native American Heritage Commission were notified on the day of the discovery. The second isolated surface artifact consists of a gray soapstone vessel fragment measuring 2.5 x 1.7 x 0.7-cm in size. It was likewise mapped and collected and is being curated by the Santa Rosa Rancheria.

5. SUMMARY AND CONCLUSIONS

ASM conducted an intensive Phase I cultural resources survey/Class III inventory for the approximately 96-acre Java Solar Project study area, near Lemoore, Kings County, California. A records search of study area files and maps was conducted at the Southern San Joaquin Valley Archaeological Information Center (AIC), California State University, Bakersfield, and a search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed. These investigations determined that two surveys had covered portions of the study area, and that no sites, sacred lands, or significant or unique cultural resources had been previously identified or recorded. Two isolated surface specimens, one of which is a fragment of a human cranium, were however identified, mapped, collected and have been turned over to the Santa Rosa Rancheria Tachi-Yokut Tribe, following notification of the Kings County Coroner, for repatriation or curation.

Construction and use of a solar power generation facility in this location, therefore, does not have the potential to result in adverse impacts or effects on known historical resources or properties. In light of the discovery of the human cranial fragment, it is recommended that an archaeological and Native American monitor be present during any ground surface disturbance on the property.

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CONFIDENTIAL APPENDIX A:

RECORD SEARCH

BEFORE THE KINGS COUNTY PLANNING COMMISSION
COUNTY OF KINGS, STATE OF CALIFORNIA

IN THE MATTER OF CONDITIONAL USE) **PERMIT NO. 15-03 (Java Solar, LLC))** **_____)**	**RESOLUTION NO. 16-09** **RE: 16741 20th Avenue, Lemoore**

WHEREAS, on June 25, 2015 Java Solar, LLC filed Conditional Use Permit No. 15-03 to establish a 15-megawatt (MW) alternating current (AC) photovoltaic (PV) solar generating farm, access driveways, electrical interconnection, and project substation on approximately 96 acres of agricultural lands in unincorporated Kings County, California; and

WHEREAS, the application was determined to be complete on December 24, 2015; and

WHEREAS, the Initial Study/Mitigated Negative Declaration (IS/MND) for the 15 MW Java Solar Project was circulated for public review from July 8, 2016, through August 8, 2016; and

WHEREAS, on September 2, 2016, the Kings County Community Development Agency recommended that the Mitigated Negative Declaration be approved for the proposal; and

WHEREAS, on September 2, 2016, the Kings County Community Development Agency staff notified the applicant of the proposed recommendation on this project; and

WHEREAS, on September 12, 2016, 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:

1. The proposed Project, as recommended for approval, <u>is consistent</u> with the objectives and the policies of the *2035 Kings County General Plan*, specifically:

   A. Figure LU-11, the Kings County Land Use Map, of the Land Use Element of the *2035 Kings County General Plan* designates this site as General Agriculture (AG-20).

   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 businesses. 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 a manner that remains compatible with other uses within the County. The development of agricultural service and produce processing facilities within the Agricultural areas of the County shall develop to County standards.

   C. Page LU-14, Section III.A.1. of the "Land Use Element" states that the AG-20 designation is applied to rural areas of the county north of Kansas Avenue, excluding the Urban Fringe areas of Hanford and Lemoore, Communities of Armona and Home Garden, the Naval Air Station Lemoore, the Santa Rosa Rancheria Tribal Trust Land, and other small Rural Interface pockets of urban uses. Generally characterized by extensive and intensive agricultural uses, farms within this designation have historically been smaller in size. These areas should remain reserved for commercial agricultural uses because of

their high quality soil, natural and manmade waterways, scenic nature with larger concentrations of orchards, vineyards, and valley oak trees.

D. Page LU-27, Section IV.B of the "Land Use Element" of the *2035 Kings County General Plan* states that the physical development of agricultural properties is regulated and implemented by the 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.

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 that 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.

G. Page RC-50, Section G, Objective G1.2 of the "Resource Conservation Element" states that the County will promote the development of sustainable and renewable alternative energy sources, including wind, solar, hydroelectric and biomass energy.

H. Page RC-50, Section G, Policy G1.2.2 of the "Resource Conservation Element" states the County will encourage and support efforts to develop commercial alternative energy sources in lower priority agricultural lands within Kings County, when appropriately sited.

I. Page RC-51, Section G, Policy G1.2.7 of the "Resource Conservation Element" states the County will require 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 use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity. A Mitigated Negative Declaration has been recommended 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 and Reporting Plan attached to the Planning Commission Resolution for this project as Exhibit "A." On the bases of the whole record (including the initial study and all comments received), there is no substantial evidence that the project will have a significant effect on the environment. The Mitigated Negative Declaration reflects the Planning Commission's independent judgment and analysis.

3. The use complies with the applicable provisions of the ordinance, specifically: The proposed Project, as recommended for approval, <u>is consistent</u> with the *Kings County Development Code*.

A. 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.

(1) Table 4-1 lists solar photovoltaic electrical generating facilities that commercially produce power for sale, which comply with all local, regional, State, and Federal regulations as a conditional use subject to Kings County Planning Commission approval in the General Agricultural (AG-20) zone district.

B. Article 11, Section 1112.B.2 of the *Kings County Development Code* states that in Agricultural Zoning Districts solar photovoltaic electrical facilities for commercial sales and distribution of electrical power shall conform to the following standards:

(1) 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.

a. Approximately 18 acres (APN: 024-170-011) of the 96-acre Java Project site is designated as "Medium Priority" land, and approximately 78 acres (APN: 024-170-010) is designated as "Low Priority" land, as mapped in Figure RC-13 of the Conservation Element of the *2035 Kings County General Plan*. Since the Project would be integrated with a reasonably foreseeable agriculture use on the site, it would satisfy the finding applicable to Medium and Low Priority land. As required under Mitigation Measure (MM) AG-1, the majority of the site would be vegetated with native grasses on at least 90% of the site for dry farm seasonal sheep grazing, in accordance with the Agricultural Management Plan (AMP) to be implemented in conjunction with the Project. As required under MM AG-2 and AG-3, the applicant would be required to prepare a Soil Reclamation Plan and provide Financial Assurance, both of which would be completed and subject to County approval prior to issuance of building permits for the Project.

(2) 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 then 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:

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

An existing 115-kV sub-transmission electrical line is located ¼ of a mile north of the Java Project site and an existing 60-kV sub-transmission line is located ¼ of a mile south of the Java Project site. 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 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 that coincides with the life of the project. Agricultural mitigation on land designed "Medium-High" or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.

a. The majority of the Project 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 the majority of the site area, concomitantly with the solar facility use. This use would represent an improvement over existing

conditions on the total acreage of the site, which has not produced crops for the last several years or has produced dry farmed, low value wheat and barley. 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. The AMP, as required under MM AG-1, would ensure the maintenance of seasonal sheep grazing on the site for life of the Project. MMs AG-2 and AG-3 would ensure that 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 nonagricultural use, and no further agricultural mitigation would be required. As such, this finding is not applicable to the Project.

(4) 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.

a. As discussed above, MMs 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 Kings County Community Development Agency prior to the issuance of construction permits. As discussed below in Finding No. 4 concerning Land Conservation (Williamson) Act Findings, the Java Project site has no surface water rights; therefore, there are no surface water rights to be retained. Based on these facts, the Project would satisfy this finding.

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

a. With the implementation of MM AG-1, the applicant would be required to comply with *Kings County Development Code* requirements for implementing a pest management plan and weed abatement plan. Therefore, the AMP would specify that native seed mixes used to revegetate the project site are free of weeds and would ensure that vegetation is actively managed via seasonal sheep grazing. The perimeter 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 AMP but would be restricted to those considered environmentally safe. The AMP would reduce the potential for pests to inhabit the Project site. The AMP 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, if used, would be selected and used in a manner that minimizes impacts to protected biological species. Since the Project would be required to implement MM AG-1, this finding would be satisfied.

(6) The project shall space internal access driveways per Kings County Fire Department standards.

a. The Java Project would include fire breaks around the site boundary in the form of access driveways subject to County standards. Interior access within the Project site would be provided from site access driveways. The access and interior driveways would be constructed in accordance with Kings County requirements and maintained to facilitate onsite circulation for emergency vehicles during all weather conditions. Therefore, this finding would be satisfied.

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

a. 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 per MM AG-4. 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 (MM AG-4) would satisfy this finding.

(8) 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 or is eligible to be cancelled and shall convert to a solar easement.

a. A portion of the Project site (Assessor's Parcel Number 024-170-010) is subject to a Farmland Security Zone (FSZ) contract, specifically Contract No. FSZ00002 in FSZ No. 0002, recorded December 18, 1998, as Document No. 9827240, Kings County Records. In addition, a portion of the Project site (Assessor's Parcel Number 024-170-011) is not restricted by either a FSZ contract or a Williamson Act contract. However, as discussed in detail below in Finding No. 4 concerning Land Conservation (Williamson) Act Findings, the Java 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 FSZ contracts.

4. **LAND CONSERVATION (WILLIAMSON) ACT FINDING:**

A portion of the Project site (Assessor's Parcel Number 024-170-010) is subject to a Farmland Security Zone (FSZ) contract, specifically Contract No. FSZ00002 in Farmland Security Zone No. 0002, recorded December 18, 1998, as Document No. 9827240, Kings County Records. In addition, a portion of the Project site (Assessor's Parcel Number 024-170-011) is not restricted by either a FSZ contract or a Williamson Act (WA) contract. The applicant proposes to avoid conflict with the FSZ contract 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.*

The productive agricultural capability of the Project site would be maintained during the life of the Java Project by implementation of an Agricultural Management Plan (MM AG-1) which specifies the ongoing maintenance of 90% vegetative cover over the site for sheep grazing. Further, in this case, the total site, which contains two parcels—one of which is not under FSZ contract—has contained no high value agricultural crops and has been fallow for several years. APN 024-170-010 (the FSZ contracted parcel) has produced dry farmed wheat and barley crops, and APN 024-170-011 (which is not under FSZ contract but contains the same soil types and other limitations as the FSZ contracted parcel) contains a failed

orchard that never reached maturity. Therefore, the proposed use represents an improvement in baseline conditions with respect to agricultural uses. Also, 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. In order to ensure that the site is restored to pre-project conditions after decommissioning, the applicant would also be required to implement MM AG-2, which requires implementation of a Soil Reclamation Plan, and MM AG-3, which requires financial assurances. The Soil Reclamation Plan would include detailed provisions on decommissioning, soil conditioning, revegetation, waste recycling/disposal, monitoring, and follow-up measures to ensure that the site has been effectively restored to pre-project conditions. Other agricultural parcels in the vicinity would not be impaired by introduction of the solar use because the site would contain a co-located agricultural use. The site would not contain uses, such as housing developments or office structures that could conflict with adjacent agricultural uses. No residents would be located on the site who would complain about the noise or odors associated with adjacent agricultural uses.

(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.*

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 with 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.

The following is a point by point evaluation of the project's consistency with the above County guidance.

First, the Project site is located adjacent to 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. Over 93% of the soils on the Project site are the same soil types as those in the area west of SR-41 that were identified in the resolution.

Second, MM AG-2 requires the implementation of a Soil Reclamation Plan for the Project, and MM AG-3 requires the provision of financial assurances for implementation of the Soil Reclamation Plan.

Third, MM AG-1 requires the implementation of an AMP that provides for the ongoing agricultural productivity of the site for the life of the Project. The site would be vegetated with grasses and forbs on at least 90% of the site and managed for dry farm seasonal sheep grazing in order to control on site vegetation, (which constitutes a reasonably foreseeable use of the land).

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. According to the Lemoore Canal District, neither of the Project parcels have entitlements to surface water deliveries. For at least the past four years, the Lemoore Canal District has delivered no water to APN 024-170-010. Although the previous owners of APN 024-170-010 owned water shares in the Lemoore Canal District these shares were withheld when the property was sold to the current owner, and the site had received no water deliveries for several years prior to the sale. According to the Lemoore Canal District, the local canal system running through the Java Project site has historically delivered water to agricultural parcels in the Project area; however, the Project parcels do not have entitlements to water deliveries from the district, and the district's water deliveries to other nearby properties have declined steeply in recent years due to ongoing drought conditions throughout California. APN 024-170-010 previously had surface water entitlements but has received no water from the Lemoore Canal District for at least the past four years, and no longer has any entitlements to future deliveries.

Groundwater Availability. The Tulare Lake Subbasin has a surface area of 524,000 acres. Total groundwater storage capacity is estimated at 17 million acre-feet to a depth of 300 feet and 82 million acre-feet to the base of fresh groundwater. Annual urban and agricultural extractions from the subbasin are estimated at 24,000 and 648,000 acre-feet, respectively. In 2006, DWR estimated that annual natural recharge of the subbasin was 89,200 acre-feet per year. Although artificial recharge and subsurface inflow were unknown, annual applied water recharge totals were estimated to be about 195,000 acre-feet. Groundwater wells in the Tulare Lake Subbasin had yields ranging from 20 to 2,000 gallons per minute, with an average range for municipal/irrigation production of 300 to 1,000 gallons per minute. The estimated average specific yield for the subbasin was 8.5 percent. In 1980, five of the seven subbasins within the San Joaquin Valley groundwater system, including Tulare Lake, were identified as being in overdraft. The DWR California Statewide Groundwater Elevation Monitoring Program recently ranked the Tulare Lake Subbasin as high-priority for groundwater monitoring and identified subsidence, overdraft, and water quality degradation as problems within this subbasin. Although still in overdraft, between 2005 and 2010, 53% of water usage in the Tulare Lake Hydrologic Region was met by groundwater. Agricultural uses in the subbasin accounted for an average of 5,550 acre-feet of groundwater use between 2005 and 2010, which amounted to 51% of water used for agricultural purposes. Additional water needs were met by local projects, Central Valley Project, and State Water Project. APN 024-170-010 previously contained grain and row crops, such as wheat and barley, and was tilled regularly for weed, pest, and fire control purposes. The southern portion of APN 024-170-011 is a failed pomegranate orchard and the northern portion is fallowed. In the past, the crops typically grown on the Project site included wheat and barley. Although the parcels were dry farmed and water was not used to produce these crops, in order to maximize crop yields, these crops would typically require approximately 1.5 acre-feet per acre per

year of irrigation water, respectively. For comparison, tomatoes and other vegetables require about 1.5 acre-feet per acre per year, and tree crops require 2.5 to 3.0 acre-feet per acre per year, while alfalfa hay requires 3.5 acre-feet per acre per year. Thus, during years with curtailment of surface water deliveries, groundwater pumping does not provide enough water to make up the difference in supporting crops in the region. Overpumping beyond safe yield results in progressive lowering of the water table and is not sustainable. In contrast, during operation, the proposed project would use 0.1 acre-feet of water per year for panel washing, which is substantially less than the amount of water that would be required to produce high value agricultural crops.

Groundwater Quality. According to DWR, groundwater quality throughout the subbasin is generally suitable for most urban and agricultural uses (DWR 2003); however, high salinity levels and the presence of other contaminants, including total dissolved solids have been identified as potential long-term problems for the basin (CVRWQCB 2004). In addition, in 2013, the Kings County Board of Supervisors recognized the limitations of groundwater supplies near the Java Project area.

Soil Conditions. Soils on the Java Project site include Armona loam, Grangeville sandy loam, Homeland fine sandy loam, Lakeside loam, and Lemoore sandy loam (see Figure 3.2-1 of the IS/MND for the Project). According to the NCRS, these soils have Storie Index ratings between 14.7 and 17.7 and are categorized as Grade 5 - Very Poor. In addition, according to the Soil Capability Classification System, even if irrigated, these soils would have moderate to severe limitations, reducing the choice of plants that can be cultivated or requiring special conservation practices. Although these soils would perform better if irrigated, considering the properties' lack of any surface water entitlements and the limited availability of groundwater in the Project area, these soils are classified as having very severe limitations as depicted in Table 3.2-3.

All of these conditions have progressively exacerbated soil salinity levels such that irrigated cultivation will cease to be feasible on the site in the near term future. Due to the limitation of reliable water availability currently available onsite and significant impairment of soil quality, the Project site is not suitable for sustaining long-term agricultural crop production, the reasonably foreseeable agricultural use of the site with or without the Project would be dry land farming with seasonal grazing.

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

Discussion. The Java 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 would include an on-site substation at the southwest corner of APN: 024-170-010. The Project substation would interconnect the Java Project and the existing Henrietta Gen-tie line, which runs along the western edge of the Project substation location. The interconnecting lines would be less than 100 feet long and would be contained entirely on the Java Project site. The Project would not result in the construction of new roadways, beyond internal access driveways within the Java Project site that would provide new vehicular access to adjacent contracted land. Since the Project would not include any excess infrastructure service 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 support facilities.

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 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 urban growth inducement.

As discussed above in the substantiation for the first compatibility findings under Government Code Section 51238.1(a), 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 Java 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 FSZ contract in effect on a portion of the Project site.

5. **FLOOD PLAIN FINDING:**

A. A small portion, approximately 3 acres at the southeast corner, of the Java Project is located within Zone A as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0325C, dated June 16, 2009. Zone A is a Special Flood Hazard Area Subject to Inundation by the 1 percent Annual Chance Flood where no base flood elevations have been determined.

(1). Any future development of structures within Zone A will be subject to standard requirements and the requirements of Chapter 5A of the *Kings County Code of Ordinances.*

a. Any future development will require that the elevation be determined and the project designed according to the criteria of the *Flood Damage Prevention Ordinance* (Chapter 5A of the *Kings County Code of Ordinances*) for any structure constructed on the portion of the site within the flood zone.

B. The majority of the Java Project site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0325C, dated June 16, 2009. There are no development restrictions associated with Other Areas Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

6. **AIRPORT COMPATIBILITY ZONE FINDING:**

A. The project site <u>is not located</u> within an Airport Compatibility Zone.

7. **SEPTIC SYSTEM FINDING:**

A. The Project site <u>is located</u> within an area requiring engineering for any new septic systems that are installed; however, no such system is planned or required for the Java Project since operations workers who visit the site periodically for inspection, maintenance, repair, and panel washing duties would utilize portable chemical toilets that would be serviced by a contractor as needed.

BE IT FURTHER RESOLVED, that based on the above findings, this Commission approves the Mitigated Negative Declaration for Conditional Use Permit No. 15-03, and approves Conditional Use Permit No. 15-03, as proposed, subject to the conditions and exceptions as follows:

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY – PLANNING DIVISION: Contact Sandy Roper of the Kings County Community Development Agency at (559) 852-2685 regarding the following requirements:

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

2. Prior to any ground disturbance, the applicant shall enter into an agreement with the Santa Rosa Rancheria Tachi Yokut Tribe regarding cultural resources and burial treatment and protection, which shall be in a form acceptable to the County, and the applicant shall offer interested Tribes 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.

3. Prior to any ground disturbance, a surface inspection of the project site shall be conducted by an Archaeologist. In addition, an Archaeologist shall monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the project for the Westside Solar Project.

4. 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 Conditional Use Permit.
   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.

5. The development shall comply with all regulations of *Kings County Development Code No. 668*, with particular reference to the General Agricultural (AG-20) Zone District standards contained in Article 4.

6. In order to ensure that fences, walls, gates, hedges, and screening and landscaping do not create traffic hazards at street or road intersections, and where driveways enter streets and roads, the following standards prescribed in Section 418.G. of the *Kings County Development Code* shall be required by the Planning Commission for all new uses and major alterations and enlargement of existing uses. These requirements are to protect public health and safety, conserve water resources, and where appropriate, insulate surrounding land uses from their impact.

   A. 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 the *Kings County Development Code*.
   B. Gates shall be permitted as follows:
      (1) 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:
         a. A minimum distance of 20 feet.
         b. 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.

(2) 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:

a. 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.

b. 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.

c. 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.

(3) 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.

C. General Fencing and Gate Requirements:

(1) All private, single-family home swimming pools constructed after January 1, 1998 shall be fenced, enclosed or equipped with another safety feature as provided in Sections 115920 – 115927 of the *California Health and Safety Codes*.

(2) Any fence or wall over seven feet in height is a structure and requires a building permit prior to construction.

(3) All heights in this Section shall be measured from the finished grade of site or the adjacent property, which-ever is lower.

(4) Fences, walls, hedges, gates, walks, driveways and retaining walls may occupy any required yard or other open spaces, subject to the limitations prescribed in the district regulations.

D. Screening Requirements: Storage of materials attendant to a permitted use requiring a Site Plan Review, or Conditional Use permit which are not specifically permitted to be stored within public view pursuant to an approved use permit, and are not completely enclosed in a structure, when located on a site abutting on or across a street or alley from an RR, R, RM or MU Zoning District shall be screened by a solid fence or masonry wall or compact growth of natural plant materials not less than six feet in height, provided that no materials or equipment shall be stored to a height greater than that of the wall or fence.

E. Landscaping: Landscaping is generally not required in these zoning districts however, as stated in Article 15 of the *Kings County Development Code*, 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". See Article 15 of the *Kings County Development Code* for additional information concerning specific landscaping requirements.

7. Pursuant to Section 418.H of the *Kings County Development Code*, signs in Agricultural Zoning Districts shall be allowed in compliance with the regulations contained in Article 14, and as prescribed in Table 4-3 of the *Kings County Development Code*. All 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 feet in height. Unless a different setback is specified for a particular zoning district, the minimum setback distance for all signs over three feet in height shall be ten feet from property lines.

8. Pursuant to Section 418.I of the *Kings County Development Code*, all uses shall be subject to the general provisions and exceptions prescribed in Article 1.

9. Pursuant to Section 418.J of the *Kings County Development Code*, exterior lighting should 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.

10. Pursuant to Section 418.K 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.

11. A minimum of four (4) off-street parking spaces shall be provided and that such parking shall be installed in accordance with the *Kings County Improvement Standards*.

12. 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 Cutback Asphalt over four (4) inches of Decomposed Granite under the "Rural Alternative." (Note: The Kings County Zoning Administrator 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.)

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 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.

17. 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 direct to David Sholes at (559) 445-6279.

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

19. 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.

20. 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 Planning Commission Resolution No. 16-09 is adopted.

21. Sales or use 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.

22. 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. The plan shall contain an analysis of pre-project baseline soil conditions, and shall contain specific measures to restore the soil to its pre-project condition, including removal of all fixtures, equipment, non-agricultural driveways, and restoration of compacted soil. Reclamation shall be completed within six months of the expiration of the use permit.

23. 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 Reclamation Plan. An Updated Engineer's Cost Estimate shall be submitted by the applicant every 5 years so that the financial assurances for the Reclamation Plan can be reviewed every 5 years by the Kings County Community Development Agency to determine if finances are sufficient to perform reclamation of the Project. The financial assurance must be adjusted if, during the five year review, finances are determined to be insufficient to perform reclamation of the Project.

24. Additional annual service impact fees affecting the Kings County Fire and Sheriff departments will not be billed to the applicant. Instead, the applicant will be responsible to pay for services rendered by the two departments during times of emergency when services are provided.

25. All mitigation measures in the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Plan that pertain to CUP No. 15-03 are adopted as conditions of this approval, and included in the Conditional Use Permit.

26. 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.

27. 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) 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.

28. 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.

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 Zoning Ordinance 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 (see condition No. 18 above) 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 comments:

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 Sate of California shall be required for all structures.

4. 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.

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

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

7. 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.

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

9. The site is located within a Special Flood Hazard Area. The proposed development shall meet the requirements of the Kings County Code of Ordinances, Chapter 5A, Flood Damage Prevention.

10. The facility shall meet the requirements of the State of California Model Water Efficient Landscape Ordinance. If landscaping is proposed then landscape and irrigation plans shall be provided to the Community Development Agency for review and approval prior to building permit issuance.

11. All construction shall conform to the 2013 California Building Standards Code (or current adopted edition) which consists of the California Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Energy Code, California Fire Code and California Green Building Standards Code.

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

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. The applicant shall secure an encroachment permit for any work in the County right-of-way.

4. Durable and dustless drive lanes shall be constructed.

5. No private overhead lines shall be placed within the Right-of-Way.

KINGS COUNTY FIRE DEPARTMENT: Contact Rick Smith of the Kings County Fire Department at (559) 852-2885 for the following comments:

1. Fire Department requires a Knox box or other approved system to store and secure keys for any fence or buildings within the property.

2. Architects, Engineers and Designers shall provide detailed plans for review of the project and shall meet with the Fire Marshal in a timely manner upon his request for clarification of any issues.

3. Solar fields shall comply with *Kings County Development Code* Section 1112.B.2 and the *California Fire Code*.

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

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

1. 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.

2. 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 at with any questions regarding proper management and reporting of hazardous wastes, such as waste oil/filters, associated with this operation.

3. The facility will be subject to the California Aboveground Petroleum Storage Act (APSA) if 1,320 gallons or more of petroleum products such as fuel will be stored on site. If this is the case the facility must contact our office for additional information.

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. Portable toilets must be serviced at an adequate frequency so as not to create nuisance conditions.

5. Three copies of any septic system plans proposed for the site must be submitted to our office for review and approval prior to construction of the system.

6. Given the proximity of LNAS 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, *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 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) 230-5937 or by email at georgia.steward@valleyair.org concerning the following comments:

1. Based on information provided to the District, project specific emissions of criteria pollutants are not expected to exceed District significance thresholds of 10 tons/year NOx, 10 ton/year ROG, and 15 tons/year PM10. Therefore, the District concludes that project specific criteria pollutant emissions would have no significant adverse impact on air quality.

2. Based on information provided to the District, the proposed project would exceed the applicability threshold within District Rule 9510 (Indirect Source Review) of 9,000 square feet of other land uses. Therefore, the District concludes that the proposed project is subject to District Rule 9510. District Rule 9510 is intended to reduce a project's impact on air quality through project design elements or mitigate its impact by payment of applicable off-site mitigation fees.

   The District recommends that demonstration of compliance with District Rule 9510, including payment of all applicable fees, be made a condition of project approval.

3. The proposed project may be subject to District Rules and Regulations, including: but not limited to: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). The proposed project may also require District permits. The applicant is strongly encouraged to contact the District prior to the start of construction to identify other District regulations that apply to this project and determine if an Authority to Construct (ATC) is required. District's Small Business Assistance (SBA) staff can be reached by phone at (559) 230-5888. A complete list of current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

4. The District recommends that a copy of the District's comments be provided to the project proponent.

UNITED STATE DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE (USFW): Contact Tim Ludwick (timothy_ludwick@fws.gov) or Thomas Leeman, Chief, San Joaquin Valley Division (thomas_leeman@fws.gov) at (916) 414-6551 or (916) 414-6544 concerning the following comments:

1. According to the site description, the lands within the Project are composed of former irrigated row crop agriculture, orchard, and fallowed land. This type of agricultural activity does not preclude uses of the site by wildlife species. The federally-listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), blunt-nosed leopard lizard (*Gambelia sila*), and Buena Vista Lake shrew (*Sorex ornatus relictus*) have all been documented near the site. Although no site-specific data is available, upland habitats could support the fox, kangaroo rat, and lizard. The background information states that the Project will impact an irrigation canal across the site. This canal could provide habitat for the shrew. Additionally, the county should consult IPaC (http://ecos.fws.gov/ipac/) to obtain a full list of federally-listed species that may occur on the project site. The provided information includes several measures that may be used to minimize effects from the Project. While these measures may reduce the potential for incidental take on the Project, take may still result during the implementation of the Project. The Service recommends that protocol-level surveys be conducted for all federally-listed species that could occur on the Project site in order for the county to perform a meaningful effect analysis and implement the appropriate conservation measures for these species.

2. Section 9(a)(1) of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

3. Development of the proposed Project could result in take of listed species and their habitat by any of the definitions outlined above. Take of both habitat and species could occur at all stages of Project development. Any take that could occur as a result of the Project would require consultation with the Service under Section 7 or Section 10 of the Act in order to not be in violation of the Act.

The foregoing Resolution was adopted on a motion by Commissioner _____ and seconded by Commissioner _____, at a regular meeting held on September 12, 2016, by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSTAIN: COMMISSIONERS
ABSENT: COMMISSIONERS

KINGS COUNTY PLANNING COMMISSION

_____
R.G. Trapnell, Chairperson

WITNESS, my hand this ____ day of September, 2016.

_____
Gregory R. Gatzka
Secretary to the Commission

cc: Kings County Board of Supervisors
Kings County Counsel
Kings County Community Development Agency – Building Division
Kings County Public Works Department
Kings County Fire Department
Kings County Health Department – Division of Environmental Health Services
San Joaquin Valley Air Pollution Control District
California Department of Fish and Wildlife
California Department of Conservation Division of Land Resource Protection, 801 K Street, MS 14-51, Sacramento, CA 95814
California Department of Transportation District 6, P.O. Box 12616, Fresno, CA 93778-2616
Regional Water Quality Control Board
Java Solar, LLC, 1414 Harbour Way South, Suite 1901, Richmond, CA 94804

Exhibits to Resolution No. 16-09

A. Mitigation Monitoring and Reporting Plan

Exhibit "A"

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

JAVA SOLAR PROJECT

CUP 15-03

COUNTY OF KINGS, CALIFORNIA

SEPTEMBER 2016

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
3.2 AGRICULTURE AND FORESTRY RESOURCES				
MM 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 site for the life of the Project. The AMP shall specify that the site shall be vegetated with grasses and forbs on at least 90% of the site and 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 CDA. The AMP shall also comply with the requirements of the *Kings County Development Code* related to weed abatement and pest control.	Prior to issuance of building permit, and during Project operations.	Kings County Community Development Agency	Prior to Building Permit Issuance: Review of the AMP. which shall be prepared and submitted by the applicant. During Operations: Review of a summary report, which shall be prepared and submitted by the applicant bi-annually during Project operations.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM 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 site at the end of the Java Project's useful life. The Plan shall contain an analysis of general preconstruction 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 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-project 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 Planning Division staff.	Prior to issuance of building permit, and at completion of decommissioning of the Project.	Kings County Community Development Agency	Prior to Building Permit Issuance: Review and approval of the Plan, which shall be prepared and submitted by the applicant. At Completion of Decommissioning: Assessment of whether the Project site has been restored to equivalent of pre-construction conditions.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM 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 by the Kings County Community Development Agency to determine if the amount of the assurances are 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.	Prior to issuance of building permit, and every 5 years from completion of construction until commencement of decommissioning of solar facility.	Kings County Community Development Agency	Prior to Building Permit Issuance: Acceptance of financial assurances provided by applicant. Every Five Years from completion of construction until Commencement of Decommissioning: Review of the updated Engineer's Cost Estimate submitted by applicant. If applicable, acceptance of adjusted financial assurances provided by applicant.	
MM AG-4: Solid Waste Management Plan. To ensure that solid waste generated during project construction is properly disposed of or recycled, the applicant shall prepare a Solid Waste Management Plan per the requirements of Article 11, Section 1112.B.2 of the *Kings County Development Code*.	Prior to issuance of building permit.	Kings County Community Development Agency	Review of the Solid Waste Management Plan, which shall be prepared and submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
3.3 AIR QUALITY				
MM AQ-1: Reducing Valley Fever Exposure. In order to reduce exposure of the public and workers from Valley Fever spores during ground disturbing activities, 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. • When exposure to dust is unavoidable for workers who will be disturbing the top 2-12 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)."	During construction and decommissioning.	Kings County Community Development Agency	Verify inclusion in the Project specifications, which shall be confirmed in a memorandum submitted by the applicant.	
3.4 BIOLOGICAL RESOURCES				
MM BIO-1 Preconstruction Clearance Surveys. A preconstruction clearance survey shall be conducted no more than 14 days in advance of ground-disturbing activities to determine the presence of nesting birds and special status species (i.e., species of special concern, rare, threatened, or endangered species). The surveys shall be conducted by a qualified biologist (i.e., a biologist with experience conducting habitat surveys; familiarity with the CDFW protocols for Swainson's hawks, burrowing owls, and other wildlife; and experience preparing agency-accepted impacts estimates and mitigation plans). These surveys shall be conducted in the project construction area and visual surveys from the site perimeter of adjacent areas. The surveys shall be refreshed if work has ceased for 30 days or more.	Prior to ground disturbing activities.	Kings County Community Development Agency	Review of a summary of the results of the preconstruction clearance surveys, which shall be prepared by the Project's qualified biologist and submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM BIO-2 Nesting Bird Protection Measures. Should bird species, protected under the Migratory Bird Treaty Act, be identified during MM BIO-1 preconstruction surveys, construction activities shall be timed to avoid sensitive seasons (e.g., February 1 – August 31, annually). If construction must occur during the breeding season, spatial buffers shall be created around all bird nests. The size of each buffer shall be determined by a qualified biologist (i.e., a biologist with experience conducting habitat surveys and familiarity with the CDFW protocols for Swainson's hawks, burrowing owls, and other wildlife) based on the species' disturbance tolerance and nesting environment, and shall meet the sufficient buffer standard for active raptor nests based on CDFW recommendations, as applicable. Buffers shall remain in place until construction is complete or the nest is determined to be inactive. Biological monitors shall be present when construction occurs adjacent to a construction-free buffer, and monitors are authorized to halt construction activities temporarily to prevent take (i.e., direct mortality, reduced recruitment or nest productivity resulting from disturbance avoidance by adult birds).	During construction.	Kings County Community Development Agency	Review of a summary report of buffers and other avoidance measures, which shall be prepared by the Project's qualified biologist and submitted by the applicant, if applicable.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

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Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM BIO-3 Burrowing Owl Impact Reduction Measures. A pre-construction survey shall be conducted within 14 days of ground-disturbing activities to determine if burrowing owls currently occupy the site. Survey methodology shall be consistent with the CDFG 2012 Staff Report on Burrowing Owl Mitigation (or more recent if a new Staff Report related to burrowing owl is published prior to construction), and shall consist of a survey of the entire project site and visual surveys (i.e. using binoculars) of suitable habitat on adjacent properties from the site perimeter. If pre-construction surveys detect the presence of any active burrows, the burrows shall be *avoided*, and a construction-free buffer shall be established around all active burrowing owl nests and burrows, as outlined in the 2012 Staff Report on Burrowing Owl Mitigation. The buffer shall be at least 200 meters during the period of February 1 through October 15, and at least 50 meters during the period of October 16 through March 31. The buffer shall remain in place until the nest fledges, fails, or the burrowing owls no longer occupy the site. If the potential for direct and indirect impacts cannot be avoided by seasonal avoidance or spatial avoidance using a construction-free buffer, the applicant shall develop a Burrowing Owl Exclusion Plan to describe the process for evicting burrowing owls and collapsing burrows prior to construction, which would be based on CDFW guidance. Burrowing owl eviction and burrow excavation, if required, shall occur outside of nesting season from September 1 to January 31.	Prior to ground disturbing activities and during construction.	Kings County Community Development Agency	Prior to ground disturbing activities: Review of a summary of the results of the preconstruction survey, which shall be prepared by the Project's qualified biologist and submitted by the applicant. During construction: Review of a summary report of buffers and other avoidance measures, and the Burrowing Owl Exclusion Plan, which shall be prepared by the Project's qualified biologist and submitted by the applicant, if applicable.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

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Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM BIO-4 San Joaquin Kit Fox Protection Measures. Prior to and during any ground-disturbing activities occurring within the Project area, the applicant shall adopt standard measures included in the guidelines in the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*, January 2011 (USFWS 2011), as outlined below: 1. If nighttime construction occurs, then the applicant's 15-mph speed limit shall be reduced to 10-mph. Off-road traffic outside of designated areas shall be prohibited. 2. To prevent inadvertent entrapment of kit foxes or other species of concern during the construction phase, all excavated, steep-walled holes or trenches more than 2-feet deep shall 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 shall be inspected for trapped animals. If at any time a trapped or injured kit fox or other species of concern is discovered, escape ramps or structures shall be installed immediately and USFWS and CDFW shall be contacted. 3. 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 shall be inspected for kit foxes and other species of concern before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox or other species of federal concern is discovered inside a pipe, that section of pipe shall not be moved until 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 special status species has escaped. 4. 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 a construction or Project site. 5. No firearms shall be allowed on the Project site except when in possession of on-duty law enforcement officials. 6. No pets, such as dogs or cats, shall be permitted on the project site to prevent harassment, mortality of kit foxes or other special status species, or destruction of dens.	Prior to ground disturbing activities.	Kings County Community Development Agency	Verify inclusion in the Project specifications, which shall be confirmed in a memorandum submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

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Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
7. Use of rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes or other species of concern 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 USFWS. If rodent control must be conducted, zinc phosphide should be used. 8. A representative shall be appointed by the applicant who shall be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or other special status wildlife 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 USFWS and CDFW. 9. An employee education program shall be conducted, which shall consist of a brief presentation by persons knowledgeable in kit fox and other special status species biology and legislative protection to explain endangered species concerns to personnel involved in onsite construction. The program shall include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during construction and implementation. The program shall also include information about any other special status wildlife identified onsite during preconstruction surveys. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site. 10. Any personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox or other special status wildlife 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 or other special status wildlife. The CDFW contact for immediate assistance is State Dispatch at (916)445-0045. 11. The Sacramento USFWS Office and CDFW shall be notified in writing within three working days of the accidental death or injury of a San Joaquin kit fox. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.				

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
12. New sightings of kit fox or other special status wildlife 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.				
3.5 CULTURAL RESOURCES				
MM CR-1: Archaeological Monitoring. Prior to any ground disturbance, a surface inspection of the Java Project site shall be conducted by a qualified archeologist. The qualified archeologist shall monitor the site during grading activities. The archeologist shall provide pre-construction briefings to supervisory personnel, any excavation contractor, and any person who will perform unsupervised, ground disturbing work on the project in connection with construction or decommissioning. The briefings will include information on potential cultural material finds and on the procedures to be enacted if resources are found.	Prior to ground disturbing activities.	Kings County Community Development Agency	Review a summary of the results of the surface inspection, which shall be prepared by the Project's qualified archeologist and submitted by the applicant; verify inclusion in the Project specifications, which shall be confirmed in a memorandum submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM CR-2: Stop Work in the Event of Unanticipated Discoveries. In the event that cultural resources, paleontological resources or unique geologic features are discovered during construction or decommissioning, operations shall stop within 100 feet of the find, and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall determine the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with §15064.5 of the CEQA Guidelines. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Any previously undiscovered resources found during construction within the Project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist.	During construction.	Kings County Community Development Agency	Verify inclusion in the project specifications, which shall be confirmed in a memorandum submitted by the applicant; review of a summary report of measures taken in the event of discoveries, which shall be prepared by the Project's qualified archaeologist and submitted by the applicant, if applicable.	
Prior to any ground disturbance, the applicant shall enter into an agreement with the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe") regarding cultural resources and burial treatment and protection ("Plan"), which shall be in a form acceptable to the County. Upon discovery of cultural resources, in addition to other procedures described in this mitigation measure, the Kings County Community Development Agency, along with other relevant agency or Tribal officials, shall be contacted to begin coordination on the disposition of the find(s), and treatment of any significant cultural resource shall be undertaken pursuant to the Plan. In the event of any conflict between this mitigation measure and the Plan, the stipulations of the Plan shall control.	Prior to ground disturbing activities.		Review of the executed agreement with the Tribe, which shall be submitted by the applicant.	
MM CR-3: Native American Monitoring. Prior to any ground disturbance, the applicant shall offer interested Tribes 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.	Prior to ground disturbing activities.	Kings County Community Development Agency	Review of correspondence with the Tribes, which shall be submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

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Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM CR- 4: Disposition of Cultural Resources. Upon coordination with the Kings County Community Development Agency, any archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded long-term preservation. Documentation for the work shall be provided in accordance with applicable cultural resource laws and guidelines.	During construction.	Kings County Community Development Agency	Coordinate with applicant and review documentation of donation of artifacts, which shall be prepared and submitted by applicant, if applicable.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
MM CR-5: Treatment of Human Remains. If Native American burials, cemeteries, isolated and/or fragmented human remains, cremations, associated funerary objects, or unassociated funerary objects are uncovered during ground disturbing activities that occur during project construction and decommissioning, the applicant shall comply with current legal requirements at the time of discovery for treatment of the find(s). Currently, pursuant to Section 5097.98 of the California Public Resources Code (PRC) and Section 7050.5(e) of the California State Health and Safety Code (HSC) Section and PRC Section 5097.98, if human remains or bone remains of unknown origin are 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 contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD), who shall have at least 48 hours from notification of the find to comment. If the MLD is determined to be the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe"), the applicant and Tribe shall proceed according to the agreed upon cultural resources and burial treatment and protection plan required under CR-2. Otherwise, the applicant 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 include appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD and the other parties do not agree on the reburial method, the Project shall follow PRC 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." 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.	During construction and decommissioning.	Kings County Community Development Agency	Review report prepared by the Project's qualified archeologist and submitted by applicant, if applicable.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
3.8 HAZARDS AND HAZARDOUS MATERIALS				
MM HAZ-1: Protection from Hazardous Materials. In order to protect the public from potential release of hazardous materials, the project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of the Kings County Public Health Department Environmental Services Division and 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 shall 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 shall 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 shall 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 each phase of the Java Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.	Prior to ground disturbing activities.	Kings County Community Development Agency	Review of the HMBP, which shall be prepared and submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
3.9 HYDROLOGY AND WATER QUALITY				
MM 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 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. Example SWPPP measures may include the following: • Preserve existing vegetation where required and when feasible. • Reseeding vegetation, where appropriate. • Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods. • Maintain sufficient quantities of temporary sediment control materials on-site throughout the duration of the project.	Prior to construction grading and decommissioning.	Kings County Community Development Agency	Review of the NOI and the SWPPP, which shall be prepared by the Project's licensed engineer and submitted by the applicant.	

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Java Solar Project CUP 15-03

Mitigation Measure	Timing of Monitoring	Monitoring Agency	Action by Monitoring Agency	Verification Log
3.16 TRAFFIC AND TRANSPORTATION				
MM TR-1: Traffic Safety Measures. As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with Caltrans and/or the County prior to initiation of construction and decommissioning activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.) and 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 on, and delays to or safety concerns for other users 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 delivery of all construction-related equipment and materials. iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods. 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.	Prior to construction and decommissioning.	Kings County Community Development Agency	Verify inclusion in Project specifications, which shall be confirmed in a memorandum submitted by the applicant.	